



ALMA MATER
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SOCIETY & TECHNOLOGY

2024

29th International Scientific Conference

SOCIETY AND TECHNOLOGY 2024 - CREATIVE INDUSTRIES AND ARTIFICIAL INTELLIGENCE

29. Međunarodni znanstveni skup

DRUŠTVO I TEHNOLOGIJA 2024 – KREATIVNE INDUSTRIJE I UMJETNA INTELIGENCIJA

29. Mednarodna znanstvena konferenca

DRUŽBA IN TEHNOLOGIJA 2024 – KREATIVNE INDUSTRIJE IN UMETNA INTELIGENCA

BOOK OF ABSTRACT / KNJIGA SAŽETAKA / ZBORNIK POVZETKOV

Zagreb, 18. – 19. 04. 2024



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OPENING SPEECH OF THE RECTOR OF ALMA MATER EUROPAEA UNIVERSITY

Ladies and gentlemen,

first of all, on behalf of Alma Mater Europaea University, I would like to welcome the esteemed speakers and participants of the Society & Technology conference. I want to thank the organizing committee, and I would especially like to express my gratitude to our deceased friends, the academician Professor Dr Jurij Plenković and academician Professor Dr Mario Plenković for several decades of work on bringing together scientists of different nations, countries, and cultures from all continents, especially from Central and South-Eastern Europe. During the most challenging times of the Balkan war, Jurij Plenković gathered scientists from Central and South-Eastern European countries and other world figures, including the USA and Japan. The Society and Technology conference, in partnership with the journal Informatologija, created a solid academic network that worked despite the war in the Balkans and consolidated peace, coexistence, and mutual respect of nations and cultures, especially in SE Europe. I had the honor of being able to follow the conferences, especially in Opatija; many habilitated university teachers from Slovenia and other universities are grateful that they were able to establish themselves academically and progress thanks to the Society and Technology conference and the publications in the Informatologija magazine.

The 29th Society and Technology Conference is correct at the right time. With its centuries-old academic tradition, Zagreb represents a strong academic potential for the conference to continue its tradition and for academics to answer the critical current questions of new technologies at the current time. That is why it is fitting that scientists, university teachers, and experts from practice who face new challenges of new technologies in society take part in the conference. Zagreb, as a city with a cosmopolitan dimension, represents the best location to give the conference a new boost after a few years of rest, the Croatian academic community, which has historically made an important contribution to the development of European cultural identity and thought, of which we are all proud, is challenged to once again address scientists for meetings in this peaceful Central European country.

Allow me to introduce Alma Mater Europaea University at this point briefly. The new full university works under the auspices of the European Academy of Sciences and Arts, which connects over 2,500 academics, including 37 Nobel laureates. The university seat is in Maribor. On the initiative that the headquarters should be in Vienna, Budapest, or Belgrade, it was estimated that all these cities are burdened with a hegemonic perception, so the decision was made to have it in the smallest country and not the capital city. The university's mission is to develop new interdisciplinary academic content complementary to existing universities and specific to Central Europe and the Danube area, such as health, demography, humanities, management, and especially today's current ICT technologies, including cyber security and Applied Artificial Intelligence. Alma Mater Europaea understands the use of artificial intelligence as a new tool for technologies in the



economy, management in the economy, state administration, medicine, and ecology. Croatian scientists, such as academic professors, crucially co-designed the study programs: Professor Dr Mario Plenковиć, doctoral program strategic communication management, Professor Dr Mladen Radujković, doctoral program Project management. I will not list others participating in developing and implementing Alma Mater Europaea study programs cooperating with Croatian universities, local communities, or the economy.

We all know that the world is faced with new technological achievements, especially artificial intelligence, and at the same time, society is faced with new contradictions; some academics call this re-barbarization. The critical question before us is how to establish a balance in society that will ensure the continuity of the achievements of European civilization, including the protection of human rights, dignity, democracy, and the fair distribution of goods. Modern global regional and military contradictions specifically appeal to scientists to develop and use technologies and design social systems by European ethical norms to serve peace and well-being. An interdisciplinary approach and dialogue of natural, social, and spiritual dimensions is essential for solving contradictions between man and society. The century-long process of the differentiation of science led to a phase José Ortega called the totalitarianism of specializations. Partial knowledge and insights led to partial conclusions, especially the great ideologies and totalitarianism of the 20th century. Artificial intelligence represents a new tool that can creatively and effectively connect different scientific disciplines to solve modern challenges. In particular, Europe today is faced with demographic trends that, due to brain drain and unilateral migration, have created a sizeable intellectual deficit in the countries of Central Europe. This contradiction has European dimensions, so a solution is possible at the European level by making the necessary social, cultural, educational, financial, and institutional instruments. The European conference It's About People, organized by Alma Mater Europaea and the European Academy of Sciences and Arts in Salzburg, therefore supported the initiative of the Vice-President of the European Commission, Dubravka Šuica, to create a demography agency at the European level, which should be located in a country that is directly faced with these challenges.

All this requires an interdisciplinary approach that will enable comprehensive solutions, what we call a new renaissance for Europe's future.

Professor Dr Ludvik Toplak
Rector of Alma Mater Europaea

UVODNI GOVOR REKTORA SVEUČILIŠTA ALMA MATER EUROPAEA

Dame i gospodo,

Prije svega, želim u ime Sveučilišta Alma Mater Europaea pozdraviti cijenjene govornike i sudionike konferencije Society & Technology, zahvaliti se organizacijskom odboru, a posebno želim izraziti zahvalnost našim preminulim prijateljima, akademiku prof. dr. Jurju Plenkoviću i akademiku prof. dr. Mariju Plenkoviću za višedesetljetni rad na okupljanju znanstvenika različitih naroda, zemalja i kultura sa svih kontinenata, a posebice iz srednje i jugoistočne Europe. U najtežim vremenima Balkanskog rata, Jure Plenković uspio je okupiti znanstvenike iz raznih zemalja srednje i jugoistočne Europe, ali i druge svjetske ličnosti, uključujući SAD i Japan. Konferencija Društvo i tehnologija, u partnerstvu sa časopisom Informatologija, stvorila je snažnu akademsku mrežu koja je djelovala unatoč ratu na Balkanu i učvrstila mir, suživot i međusobno poštovanje nacija i kultura u jugoistočnoj Europi. I sam sam imao čast pratiti konferencije, posebno u Opatiji, mnogi habilitirani sveučilišni nastavnici iz Slovenije i drugih sveučilišta zahvalni su što su se uspeli akademski afirmirati i napredovati zahvaljujući konferenciji Društvo i tehnologija i publikacijama u časopisu Informatologija.

29. konferencija Društvo i tehnologija na pravom je mjestu u pravo vrijeme. Zagreb sa svojom višestoljetnom akademskom tradicijom predstavlja snažan akademski potencijal da konferencija nastavi svoju tradiciju, da akademici daju odgovore na ključna aktualna pitanja novih tehnologija u današnjem vremenu. Zato je ispravno da na konferenciji sudjeluju znanstvenici, sveučilišni nastavnici i stručnjaci iz prakse koji se svakodnevno susreću s novim izazovima novih tehnologija u društvu.

Zagreb, kao grad kozmopolitske dimenzije, predstavlja najbolju lokaciju da se konferenciji nakon nekoliko godina mirovanja da novi poticaj, a hrvatski akademski zajednici - koja je kroz povijest dala važan doprinos razvoju europskog kulturnog identiteta i misli, o kojoj smo svi ponosni - izazov je ponovno se obratiti znanstvenicima za skupove u ovoj miroljubivoj srednjoeuropskoj zemlji.

Dopustite mi da na ovom mjestu ukratko predstavim Sveučilište Alma Mater Europaea. Riječ je o novom sveučilištu koje djeluje pod okriljem Europske akademije znanosti i umjetnosti koja povezuje više od 2500 akademika, među kojima je 37 nobelovaca. Sjedište sveučilišta je u Mariboru. Na inicijativu da sjedište bude u Beču, Budimpešti ili Beogradu, procijenjeno je da su svi ti gradovi opterećeni hegemonističkom percepcijom, pa je donesena odluka da to bude u najmanjoj zemlji, a ne u glavnom gradu. Misija sveučilišta je misija razvijanja novih interdisciplinarnih akademskih sadržaja koji su komplementarni postojećim sveučilištima i specifični za Srednju Europu i Podunavlje, kao što su zdravstvo, demografija, humanističke znanosti, menadžment, a posebno danas aktualne ICT tehnologije, uključujući kibernetičku sigurnost i primijenjenu umjetnu inteligenciju. Alma Mater Europaea korištenje umjetne inteligencije shvaća kao novi alat za tehnologije u gospodarstvu, za upravljanje u gospodarstvu i državnoj upravi, za medicinu i ekologiju. Reći



ću da su studijske programe presudno suoblikovali hrvatski znanstvenici, poput akademika prof. dr. Mario Plenković, doktorski program Strateški komunikacijski menadžment ili prof. dr. Mladen Radujković, doktorski studij Projektni menadžment. Neću nabrajati ostale koji sudjeluju u razvoju i provedbi studijskih programa Alma Mater Europaea u suradnji s hrvatskim sveučilištima, lokalnim zajednicama ili gospodarstvom.

vi znamo da je svijet suočen s novim tehnološkim dostignućima, posebice umjetnom inteligencijom, a u isto vrijeme društvo je suočeno s novim proturječjima, neki akademici to nazivaju rebarbarizacijom. Pred nama je ključno pitanje kako u društvu uspostaviti ravnotežu koja će osigurati kontinuitet tekovina europske civilizacije, uključujući zaštitu ljudskih prava, dostojanstva i demokracije te pravednu raspodjelu dobara. Suvremena globalna i regionalna i vojna proturječja posebno pozivaju znanstvenike na razvoj i korištenje tehnologija i oblikovanje društvenih sustava u skladu s europskim etičkim normama u službi mira i blagostanja, a interdisciplinarni pristup i dijalog prirodnih, društvenih i duhovnih dimenzija je važni za rješavanje aktualnih proturječja čovjeka i društva. Stoljetni povijesni proces diferencijacije znanosti doveo je do faze koju je José Ortega nazvao »totalitarizmom specijalizacija«.

Djelomična znanja i uvidi doveli su do djelomičnih zaključaka, posebice velikih ideologija i totalitarizama 20. stoljeća. Upravo umjetna inteligencija predstavlja novi alat koji može kreativno i učinkovito povezati različite znanstvene discipline za rješavanje suvremenih izazova. Konkretno, Europa je danas suočena s demografskim trendovima koji su zbog odljeva mozgova i jednosmernih migracija stvorili veliki intelektualni deficit u zemljama srednje Europe. Ovo proturječje ima europske dimenzije, zbog čega je rješenje moguće jedino na europskoj razini, također kroz stvaranje potrebnih društvenih, kulturnih, obrazovnih, financijskih i institucionalnih instrumenata. Europska konferencija Za človeka gre, It's About People, u organizaciji Alma Mater Europaea i Europske akademije znanosti i umjetnosti u Salzburgu stoga je podržala inicijativu potpredsjednice Europske komisije ga. Dubravke Šuice o stvaranju agencije za demografiju na europskoj razini, koja bi se trebala nalaziti u zemlji koja je izravno suočena s tim izazovima.

Sve to zahtijeva interdisciplinarni pristup koji će omogućiti cjelovita rješenja, ono što danas nazivamo novom renesansom za budućnost Europe.

Prof. dr. Ludvik Toplak
Rektor Alma Mater Europaea

OTVORITVENI GOVOR REKTORJA UNIVERZE ALMA MATER EUROPAEA

Dame in gospodje,

najprej želim v imenu Univerze Alma Mater Europaea pozdraviti cenjene govornike in udeležence konference Society & Technology, želim izraziti zahvalo organizacijskemu odboru, posebej pa želim izraziti hvaležnost našima preminulima prijateljema akademiku prof. dr. Jurju Plenkoviću in akademiku prof. dr. Mariu Plenkoviću za več desetletno delo na zbliževanju znanstvenikov različnih narodov, držav in kultur iz vseh kontinentov, posebej pa iz centralne in jugovzhodne Evrope. V najtežjih časih balkanske vojne je Juraj Plenković uspel zbrati znanstvenike iz različnih držav centralne in JV Evrope ter drugih svetovnih osebnosti vključno z ZDA in Japonske. Konferenca Society and Technology je v partnerstvu z revijo Informatologija ustvarila močno akademsko mrežo, ki je delovala navkljub vojni na Balkanu ter utrjevala mir, sožitje in vzajemno spoštovanje narodov in kultur, predvsem JV Evrope. Sam sem imel čast, da sem lahko spremljal konference, zlasti v Opatiji, mnogi habilitirani univerzitetni učitelji iz Slovenije in tudi drugih univerz so hvaležni, da so se lahko akademsko uveljavili in napredovali prav zahvaljujoč konferenci Society and Technology ter objavam v reviji Informatologija.

29. konferenca Society and Technology je ob pravem času na pravem mestu. Zagreb z večstoletno akademsko tradicijo predstavlja močen akademski potencial, da konferenca nadaljuje svojo tradicijo, da akademiki dajejo odgovore na ključna aktualna vprašanja novih tehnologij ob aktualnem času. Zato je prav, da na konferenci sodelujejo znanstveniki, univerzitetni učitelji in strokovnjaki iz prakse, ki se dnevno soočajo z novimi izzivi novih tehnologij v družbi.

Zagreb kot mesto s kozmopolitsko dimenzijo predstavlja najboljšo lokacijo, da po nekajletnem mirovanju konferenci dá nov vzgon, hrvaška akademska skupnost, ki je v zgodovini dala pomemben prispevek k razvoju evropske kulturne identitete in misli, na katero smo ponosni vsi, pa je izzvana, da ponovno nagovori znanstvenike za srečanja v tej srednjeevropski miroljubni državi.

Dovolite mi, da na tem mestu na kratko predstavim univerzo Alma Mater Europaea. Gre za novo univerzo, ki dela pod pokroviteljstvom Evropske akademije znanosti in umetnosti, ta povezuje preko 2500 akademikov, med njimi 37 Nobelovih nagrajencev. Sedež univerze je v Mariboru. Na pobudo, da naj bo sedež na Dunaju, Budimpešti ali v Beogradu, se je ocenilo, da so vsa ta mesta obremenjena s hegemonistično percepcijo zato je odločitev bila dana, da naj bo v državi, ki je najmanjša in ne v glavnem mestu. Poslanstvo univerze je poslanstvo razvoja novih interdisciplinarnih akademskih vsebin, ki so komplementarne obstoječim univerzam in specifične za srednje evropski in podonavski prostor kot so zdravje, demografija, humanistika, management, predvsem pa danes aktualne IKT tehnologije vključno z kibernetiko varnostjo in Applied Artificial Intelligence. Alma Mater Europaea razume uporabo umetne inteligence kot nova orodja za tehnologije v gospodarstvu, za management v gospodarstvu in državni upravi, za medicino in ekologijo. Naj povem, da so študijske programe ključno sooblikovali hrvaški znanstveniki, tako



kot akademik prof. dr. Mario Plenković, doktorski program strateški komunikacijski management ali prof. dr. Mladen Radujković, doktorski program Project management. Ne bom našteval drugih, ki sodelujejo pri razvoju in implementaciji študijskih programov Alma Mater Europaea v sodelovanju z hrvaškimi univerzami, lokalnimi skupnostmi ali gospodarstvom.

Vsi vemo, da je svet soočen z novimi tehnološkimi dosežki, predvsem umetno inteligenco, istočasno pa družba soočena z novimi protislovji, nekateri akademiki to poimenujemo re-barbarizacija. Ključno vprašanje pred nami je, kako vzpostaviti ravnotežje v družbi, ki bo zagotavljalo kontinuiteto dosežkov evropske civilizacije vključno z varovanjem človekovih pravic, dostojanstvom in demokracijo ter pravičnostjo delitve dobrin. Sodobna globalna in regionalna ter vojaška protislovja posebej apelirajo na znanstvenike, da razvijejo in koristijo tehnologije in oblikujejo družbene sisteme v skladu z evropskimi etičnimi normami v službi miru in blagostanja, za reševanje aktualnih protislovij pa je pomemben interdisciplinaren pristop in dialog naravoslovnih, družbenih in duhovnih dimenzij človeka in družbe. Stoletni zgodovinski proces diferenciacije znanosti je pripeljal do faze, ki jo je Hoze Ortega imenoval totalitarizem specializacij. Parcialna znanja in spoznanja so vodila do parcialnih zaključkov, predvsem velikih ideologij in totalitarizmov predvsem 20. stoletja. Prav umetna inteligenca predstavlja novo orodje, ki ustvarjalno in učinkovito lahko poveže različne znanstvene discipline za reševanje sodobnih izzivov. Posebej je danes Evropa soočena z demografskimi trendi, ki so zaradi bega možganov in enostranskih migracij ustvarili prav v državah centralne Evrope velik intelektualni deficit. To protislovje ima evropske dimenzije zato je mogoča rešitev le na evropski ravni tudi z oblikovanjem potrebnih socialnih, kulturnih, vzgojnih, finančnih in institucionalnih instrumentov. Evropska konferenca Za človeka gre v organizaciji Alma Mater Europaea z Evropsko akademijo znanosti in umetnosti v Salzburgu je zato podprla iniciativo podpredsednice Evropske komisije ge. Dubravke Šuice, da se na evropski ravni oblikuje agencija za demografijo, ki naj bo locirana v državi, ki je neposredno soočena s temi izzivi.

Vse to zahteva interdisciplinarni pristop, ki bo omogočil celovite rešitve, kar imenujemo nova renesansa za prihodnost Evrope.

Prof. dr. Ludvik Toplak
Rektor Alma Mater Europaea

FRAMEWORK

It is my pleasure to present the Book of Abstracts of the 29th International Conference “Society and Technology” at a time when the boundaries between technology, culture and science are becoming more and more interwoven and intertwined, and this year’s conference is distinguished by its focus on “Creative Industries and Artificial Intelligence”, the topic of of key importance for our future.

This meeting represents a combination of expertise and dedication towards the advancement of knowledge and understanding of the impact of artificial intelligence on society, culture, and economy. I am extremely grateful to all partners and institutions that helped us realize this event. The doctoral study program Strategic Communication Management of Alma Mater Europaea University – ECM as a synergistic pillar brought together and connected scientific journals, faculties, companies, and communities that contributed to the organization of the meeting.

The world around us is changing at a speed that has not been recorded before, driven by developments in the field of artificial intelligence. The changes that artificial intelligence is bringing to the creative industries are profound, shaping new paradigms of creation, distribution, and interaction with culture. The “Society and Technology” gathering serves as a forum to consider these key questions, offering an opportunity for deep reflection on the future we are creating together.

The Book of Abstracts you hold in your hands is the fruit of months of hard work and dedication. It presents a wide range of works dealing with the impact of artificial intelligence on various aspects of our lives, from creativity and ethics to industrial and economic transformation. Each paper provides valuable insight into the complexity of the relationship between society and technology, opening the way for new research and solutions.

I would like to thank all the authors for their valuable contributions and everyone else who contributed in any way to the organization and work of the conference. May this Conference and Book of Abstracts be a source of inspiration and dialogue, encouraging us to further explore and collaborate in an effort to understand and shape the rapidly changing world around us.

With respect,

Ivan Balabanić, Professor
Chairman of the Organizing Committee



PREDGOVOR

Zadovoljstvo mi je predstaviti Knjigu sažetaka 29. međunarodnog skupa "Društvo i tehnologija" u vrijeme kada granice između tehnologije, kulture i znanosti postaju sve više prožete i međusobno isprepletene, a ovogodišnji skup izdvađa se fokusom na "Kreativne industrije i umjetna inteligencija", temu od ključne važnosti za našu budućnost.

Ovaj skup predstavlja spoj stručnosti i posvećenosti prema napretku znanja i razumijevanja utjecaja umjetne inteligencije na društvo, kulturu i ekonomiju. Izuzetno sam zahvalan svim partnerima i institucijama koje su nam pomogle u realizaciji ovog događaja. Doktorski studijski program Strateški komunikacijski menadžment Sveučilišta Alma Mater Europaea – ECM kao sinergijski stup okupio je i povezoao znanstvene časopise, fakultete, tvrtke i zajednice koji su pridonijeli organizaciji skupa.

Svijet oko nas mijenja se brzinom koja prije nije bila zabilježena, potaknuta razvojem u polju umjetne inteligencije. Promjene koje umjetna inteligencija donosi u kreativne industrije su duboke, oblikujući nove paradigme stvaranja, distribucije i interakcije s kulturom. Skup "Društvo i tehnologija" služi kao forum na kojem se razmatraju ova ključna pitanja, nudeći priliku za duboko promišljanje o budućnosti koju zajednički kreiramo.

Knjiga sažetaka koju držite u rukama je plod mjeseci napornog rada i predanosti. Ona predstavlja širok spektar radova koji se bave utjecajem umjetne inteligencije na različite aspekte našeg života, od kreativnosti i etike do industrijske i ekonomske transformacije. Svaki rad pruža dragocjen uvid u kompleksnost odnosa između društva i tehnologije, otvarajući put za nova istraživanja i rješenja.

Zahvaljujem svim autorima na njihovim vrijednim doprinosima i svima ostalima, koji ste na bilo koji način doprinijeli organizaciji i radu konferencije. Neka ovaj skup i knjiga sažetaka budu izvor inspiracije i dijaloga, potičući nas na daljnje istraživanje i suradnju u nastojanju da razumijemo i oblikujemo svijet koji se brzo mijenja oko nas.

S poštovanjem,

izv. prof. dr. sc. Ivan Balabanić
Predsjednik organizacijskog odbora

PREDGOVOR

Z veseljem vam predstavljam Zbornik povzetkov 29. mednarodne konference „Družba in tehnologija“ v času, ko se meje med tehnologijo, kulturo in znanostjo vse bolj prepletajo, letošnje srečanje pa izstopa s poudarkom na »Kreativnih industrijah in umetni inteligenci«, temi ključnega pomena za našo prihodnost.

To srečanje predstavlja kombinacijo strokovnega znanja in predanosti napredku znanja ter razumevanja vpliva umetne inteligence na družbo, kulturo in gospodarstvo. Izredno sem hvaležen vsem partnerjem in institucijam, ki so nam pomagali pri izvedbi tega dogodka. Doktorski študijski program Strateški komunikacijski management (študenti in profesorji) Univerze Alma Mater Europaea – ECM je kot sinergijski steber združil in povezal znanstvene revije, fakultete, podjetja in skupnosti, ki so prispevale k organizaciji in izvedbi srečanja.

Svet okoli nas se zaradi razvoja na področju umetne inteligence spreminja s hitrostjo, ki še ni bila zabeležena. Spremembe, ki jih umetna inteligenca prinaša v kreativne industrije, so globoke in oblikujejo nove paradigme ustvarjanja, distribucije in interakcije s kulturo. Srečanje „Družba in tehnologija“ služi kot forum za razmislek o teh ključnih vprašanjih in ponuja priložnost za globok razmislek o prihodnosti, ki jo ustvarjamo skupaj.

Knjiga povzetkov, ki jo držite v rokah, je plod večmesečnega trdega dela in predanosti. Predstavlja široko paleto del, ki obravnavajo vpliv umetne inteligence na različne vidike našega življenja, od ustvarjalnosti in etike do industrijske in ekonomske transformacije. Vsak članek nudi dragocen vpogled v kompleksnost odnosa med družbo in tehnologijo ter odpira pot novim raziskavam in rešitvam.

Zahvaljujem se vsem avtorjem za njihove dragocene prispevke in vsem ostalim, ki so kakorkoli pripomogli k organizaciji in delu konference. Naj bosta ta zbirka in knjiga povzetkov vir navdiha in dialoga ter nas spodbujata k nadaljnjemu raziskovanju in sodelovanju v prizadevanju za razumevanje in oblikovanje hitro spreminjajočega se sveta okoli nas.

S spoštovanjem,

prof. dr. sc. Ivan Balabanić
Predsednik organizacijskega odbora



PRELIMINARNI PROGRAM

29. MEĐUNARODNOG ZNANSTVENOG SKUPA DRUŠTVO I TEHNOLOGIJA – KREATIVNE INDUSTRIJE I UMJETNA INTELIGENCIJA

18.4.2024.

ČETVRTAK

09:00-10:00 REGISTRACIJA

10:00-10:30 OTVORENJE – POZDRAVNI GOVORI

Prof. dr. sc. **Ludvik Toplak**, Rektor Alma Mater Europaea ECM

Holger Haibach, direktor ureda Zaklade Konrad Adenauer za Hrvatsku i Sloveniju

Josip Popovac, ravnatelj Agencije za elektorničke medije

Prof. dr. sc. **Miljenko Šimpraga**, predsjednik Hrvatske zajednice inovatora

Maja Vidmar, predsjednica Udruge za zaštitu, prikupljanje i raspodjelu naknada fonogramskih prava

10:30- 14:00 POZVANA PREDAVANJA

1. izv. prof. dr. sc. **Lana Ciboci Perša**, Hrvatsko katoličko sveučilište
Coding Truth: Reshaping Media Narratives and Combatting Disinformation in the Era of Artificial Intelligence
 2. dr. sc. **Ljubiša Bojić**, The Institute for Artificial Intelligence Research and Development of Serbia
Large Language Models Observatory: Creating New Benchmarks for AI Alignment in Sentiment Analysis of Socially Critical Issues
 3. izr. prof. sr. sc. **Matej Mertik**, Alma Mater Europaea
Applied artificial intelligence, challenges and transformation
 4. izv. prof. dr. sc. **Robert Kopal**, EFFECTUS University of Applied Sciences
AI: Quo vadis humanity (& democracy)?
 5. **Anamaria Todorić**, Večernji list
Kako AI mijenja novinarstvo
-

14:00-15:00 ZAKUSKA

15:00-16:30 KOMUNIKACIJSKE STRATEGIJE I MEDIJI U DOBA UMJETNE INTELIGENCIJE

Ivana Erceg Matijašević (EU Programmes, Croatia) ; Martina Baričević Debelec (University of North, Croatia); Ljerka Luić (University of North, Croatia)

ASSESSING SENTIMENTS ABOUT ARTIFICIAL INTELLIGENCE USING ARTIFICIAL INTELLIGENCE ON THE EXAMPLE OF CROATIAN MEDIA

Robert Kopal (EFFECTUS University of Applied Sciences, Croatia) ; Darija Korkut (EFFECTUS University of Applied Sciences, Croatia) ; Krešimir Žnidar (Algebra University, Croatia)
DEEP INSIGHTS INTO AI PERCEPTION IN CROATIA

Kristijan Sedak (Catholic University of Croatia, Croatia) ; Miro Radalj (The Faculty of Humanities and Social Sciences, University of Mostar, Bosnia and Herzegovina) ; Barbara Poslek (Catholic University of Croatia, Croatia)

ARTIFICIAL OR INTELLIGENT MEDIA RELATIONS - PERSPECTIVES AND POTENTIALS OF ARTIFICIAL INTELLIGENCE IN GENERATING PRESS RELEASES

Arijana Marjanović (Catholic University of Croatia, Croatia):

THE FUTURE OF DEEPFAKE TECHNOLOGY: ADVANTAGES AND CHALLENGES

Maja Mlakar (Sveučilište Sjever, Hrvatska); Ljerka Luić (Sveučilište Sjever, Hrvatska)
STAV O DIGITALNOM OTISKU – PREDIKTOR DIGITALNE PISMENOSTI GENERACIJE Z

Boris Beck (Fakultet političkih znanosti Zagreb, Hrvatska); Marin Galić (Sveučilište Sjever, Hrvatska):
UMJETNA INTELIGENCIJA U IZRADI TVRDIH I MEKIH VIJESTI – NOVINARSKE VRSTE I INTERESI ČITATELJA

16:45-17:45 REGULATORNI I POLITIČKI ASPEKTI UMJETNE INTELIGENCIJE

Ludmylla Mariana Anselmo (University of Barcelona, Spain) ; Luiza de Paula Araujo Galvao Cunha (University of Barcelona, Spain) ; Thiago Bezerra Vilar (University of Salamanca, Spain)

ARTIFICIAL INTELLIGENCE DEVELOPMENT AND HUMAN RIGHTS: A POSSIBLE DIALOGUE

Sanja Grbović Faculty of Law (University of Montenegro, Montenegro)

AI ACT- STRIKING A DELICATE BALANCE BETWEEN REGULATION AND INNOVATION

Lidija Eret Faculty of Political Science (University of Zagreb, Croatia)

ARTIFICIAL INTELLIGENCE IN THE METHODOLOGY OF POLITICAL EDUCATION

Ivana Belic (REGEA, Hrvatska) ; Irena Klepac Mustač (Odvjetničko društvo Kamenar Milutin i Klepac Mustač, Hrvatska); Manuela Bukovec (OTP Leasing d.d., Hrvatska)

ANALIZA PERCEPCIJE POLITIČKIH PORUKA: UMJETNA INTELIGENCIJA VS. LJUDSKI IZRAZ

19.4.2024.

PETAK

10:00-11:15 UMJETNA INTELIGENCIJA U KREATIVNOJ INDUSTRIJI I EKONOMIJI

Ellen Martin (University Macromedia of applied science, Germany) ; Ralf Spiller (University Macromedia of applied science, Germany) ; Mahir Hassan (University Macromedia of applied science, Germany); Ayoub Bouchedoub (University Macromedia of applied science, Germany) ; David Wiestner (University Macromedia of applied science, Germany)

THE USE OF AI IN GERMAN DESIGN- AND ADVERTISING AGENCIES – THE INFLUENCE ON THE ORGANIZATIONAL STRUCTURE AND THE ACTIONS OF INDIVIDUAL ACTORS

Dafne Vidanec (Balthazar University of Applied Sciences, Croatia) ; Petar Miljković (University North - University Centre Varaždin, Croatia)

ARTIFICIAL INTELLIGENCE WITHIN GRAPHICAL PRODUCTION MANAGEMENT CONTEXT



Tomislav Hudika (University of Zagreb, Faculty of Graphic Arts, Croatia)

THE ROLE OF INTELLECTUAL PROPERTY IN INDUSTRIAL PROGRESS - A CASE STUDY AT EU LEVEL

Hrvoje Kovač (Pučko otvoreno učilište Varaždin, Hrvatska), Gordana Lesinger, (Sveučilište Sjever, Hrvatska)

ARTIFICIAL INTELLIGENCE IN JOURNALISM: APPLICATION POSSIBILITIES AND ETHICAL ASPECTS (INFORMATION AND MISINFORMATION)

Gilbert Hofmann (Filozofskog fakulteta Sveučilišta u Zagrebu, Hrvatska) ; Sanja Seljan (Filozofskog fakulteta Sveučilišta u Zagrebu, Hrvatska) ; Ivan Dunđer (Filozofskog fakulteta Sveučilišta u Zagrebu, Hrvatska)

ANALIZA SENTIMENTA KAO METODA ZA MJERENJE IMIDŽA U TURIZMU

11:15-11:45 UMJETNA INTELIGENCIJA U ZDRAVSTVENOM SUSTAVU

Anthony Ban (Alma Mater Europaea, Slovenija) ; Branka Ličanin (Alma Mater Europaea, Slovenija)
AUGMENTED REALITY (AR) U SIMULACIJI ESTETSKIH REZULTATA: KREATIVNA REVOLUCIJA U ESTETSKOJ MEDICINI

Dubravka Jakšetić (Dom zdravlja Gospić, Hrvatska)

ODNOS KORISNIKA ZDRAVSTVENIH USLUGA PREMA UMJETNOJ INTELIGENCIJI

11:45-12:45 PRIMJENA UMJETNE INTELIGENCIJE U EDUKATIVNOM KONTEKSTU

Laura Visković (Promo-Plan d.o.o., Croatia) ; Elena Đerić (University North, Croatia) ; Ljerka Luić (University North, Croatia)

ASSESSMENT OF THE DIGITAL LITERACY INFLUENCE ON THE ADOPTION OF AI-BASED TOOLS

Danijela Unić (VERN University, Croatia) ; Nives Mikelić Preradović (Faculty of Humanities and Social Sciences, University of Zagreb, Croatia)

CO-DESIGNING INCLUSIVE LEARNING ENVIRONMENTS WITH ARTIFICIAL INTELLIGENCE

Martina Stadnik (Algebra University, Croatia) ; Ana Lokas Čošković (Algebra University, Croatia) ; Tihana Banko (Algebra University, Croatia) ; Domagoj Ružak (Algebra University, Croatia)

AI AND WRITING SKILLS: STUDENTS' ATTITUDES TOWARDS USING AI TO ENHANCE THEIR WRITING BASED ON THE EXAMPLE OF ALGEBRA UNIVERSITY STUDENTS

Suzana Peran (Hrvatsko katoličko sveučilište, Hrvatska) ; Anđelka Raguž (Sveučilište Sjever, Hrvatska)

UMJETNA INTELIGENCIJA: PRILIKA ILI PRIJETNJA? PERSPEKTIVA STUDENATA KOMUNIKOLOGIJE

12:45-13:30 PAUZA

13:30-14:45 UTJECAJ UMJETNE INTELIGENCIJE NA KREATIVNOST

Primož Krašovec (Faculty of Arts, University of Ljubljana, Slovenia)

AI'S CREATIVITY AND COMMON SENSE TURING TESTS

Jelena Ivelić (Sveučilište Sjever, Hrvatska) ; Amarela Alar Student (Sveučilište Sjever, Hrvatska) ; Altea Polančec (Sveučilište Sjever, Hrvatska)

DRUŠTVO I TEHNOLOGIJA; KREATIVNE INDUSTRIJE I UMJETNA INTELIGENCIJA

Zlatko Vidačković (Hrvatsko narodno kazalište u Zagrebu, Hrvatska)

FILMSKI PRIKAZI UMJETNE INTELIGENCIJE - FANTASTIKA ILI UPOZORENJE ZA BUDUĆNOST?

Jasna Ćurković Nimac (Catholic University of Croatia, Croatia) ; Odilon Gbènoukpo Singbo (Catholic University of Croatia, Croatia)

WHEN A ROBOT SINGS A LULLABY. An ethical perspective on the intersection of AI and intergenerational collective memory

Suzana Jurin (Filozofski fakultet u Rijeci, Hrvatska)

METAFORA KAO KOGNITIVNI INSTRUMENT U INSTITUCIONALNIM TEKSTOVIMA

14:45-16:15 ANALITIČKA OBRADA PODATAKA I INFORMACIJA KROZ UMJETNU INTELIGENCIJU

Steven Watson (Faculty of Education University of Cambridge, United Kingdom) ;

Erik Brezovec (Faculty for Croatian Studies University of Zagreb, Croatia)

AUTHOR AND CHATGPT IN SCIENCE: INSIGHT FROM THE SOCIAL SYSTEM THEORY APPROACH

Slobodan Hadžić (Alma Mater Europaea, Slovenia) ; Tanja Grmuša (Poslovno veleučilište Zagreb, Hrvatska) ; Ivan Balabanić (Institut za istraživanje i migraciju, Hrvatska)

DOSEZI UMJETNE INTELIGENCIJE U PROMJENAMA ISTRAŽIVAČKE METODOLOGIJE U TRŽIŠNOM I AKADEMSKOM SEKTORU

Matko Glučina (Istrian University of Applied Sciences, Croatia) ; Nikola Žigulić (University of Rijeka, Faculty of Engineering – Croatia) ; Ivan Lorencin (Faculty of Informatics, Juraj Dobrila University of Pula , Croatia) ; Domagoj Frank (University North Koprivnica , Croatia) ; Dario Matika (University North Varaždin, Croatia)

ENHANCING URBAN SECURITY: APPLICATION OF YOLOV9 OBJECT DETECTION ALGORITHM FOR WEAPON DETECTION

Matko Glučina (Istrian University of Applied Sciences, Croatia) ; Nikola Žigulić (University of Rijeka, Faculty of Engineering – Croatia) ; Ivan Lorencin (Faculty of Informatics, Juraj Dobrila University of Pula , Croatia) ; Domagoj Frank (University North Koprivnica , Croatia) ; Dario Matika (University North Varaždin, Croatia)

ENHANCING MILITARY DECISION-MAKING THROUGH DATASET EXPLORATION

Izvor Rukavina (Filozofski fakultet Sveučilišta u Zagrebu, Hrvatska) ; Roberto Vdović (Arhitektonski fakultet Sveučilišta u Zagrebu, Hrvatska)

KONSTRUKCIJA I EVALUACIJA ANKETNE SKALE ZA MJERENJE STAVOVA O STEM-U I STEM ZNANSTVENICIMA

16:15-18:00 ONLINE IZLAGANJA

16:15-18:00 Online Dvorana A

Amina Vatreš (University of Sarajevo - Faculty of Political Sciences, Bosnia and Herzegovina)
FREEDOM OR CENSORSHIP: ALGORITHMIC CREATION OF SUB-REALITY

YUYAN Li MA (University of London, United Kingdom) :

ARTIFICIAL INTELLIGENCE AND THE CREATIVE ARTS: SHAPING THE FUTURE OF CREATIVE INDUSTRIES AND SOCIAL CHANGE

Ana Meštrović (University of Rijeka, Faculty of Informatics and Digital Technologies, Croatia) ; Ivica Botički (University of Zagreb, Faculty of Electrical Engineering and Computing, Croatia) ; Marina Baralić (Presscut d.o.o., Croatia) ; Slobodan Beliga (University of Rijeka, Faculty of Informatics and Digital Technologies, Croatia)

EXPLORING INNOVATIVE AI, NLP AND LLM TECHNIQUES FOR ANALYSIS OF ONLINE MEDIA TEXTS DURING THE ELECTION CAMPAIGN



Sara Kljajić (Univerzitet "Džemal Bijedić" u Mostaru, Bosna i Hercegovina) ; Veldin Ovčina, (Univerzitet "Džemal Bijedić" u Mostaru, Bosna i Hercegovina) ; Sandra Soče Kraljević (Sveučilište u Mostaru, Bosna i Hercegovina)

ETHICAL CONSIDERATIONS AND RECOGNITION: UNDERSTANDING ATTITUDES TOWARDS ARTIFICIAL INTELLIGENCE ACROSS DIVERSE DEMOGRAPHICS

Tea Kavrantan Soldatić (Alma Mater Europaea, Slovenia) ; Edi Luketa (Alma Mater Europaea, Slovenia)

POTENCIJAL UMJETNE INTELIGENCIJE U STVARANJU DEZINFORMACIJA U KONTEKSTU SIRENJA TEORIJA ZAVJERE

Vlaho Kovačević (Faculty of humanities and social sciences in Split, Croatia) ; Krunoslav Malenica (Faculty of humanities and social sciences in Split, Croatia)

CREATIVE INDUSTRIES IN THE PANDEMIC PERIOD: A CASE STUDY OF THE OKSIDASSOCIATION

Zvonko Trzun (University of Defense and Security Dr Franjo Tuđman, Croatia) ; Danijela Lucić (Faculty of Humanities and Social Sciences, University of Zagreb, Croatia) ; Dijana Gracin (Croatian Military Academy Dr Franjo Tuđman, Croatia)

INFORMATION WARFARE AND PROPAGANDA IN RUSSO-UKRAINIAN WAR, LESSONS LEARNED

16:15-18:00 Online / Dvorana B

Dominik Vuletić (University of Zagreb, Faculty of Economics & Business, Croatia)

HIGH RISK ARTIFICIAL INTELLIGENCE SYSTEMS AND LEGAL DOCTRINE OF ESSENTIAL FACILITIES: IN SEARCH FOR A DYNAMIC MODEL

Marta Takahashi (Hrvatsko katoličko sveučilište, Hrvatska)

INFORMIRANOST O KIROPRAKTIKI KAO KOMPLEMENTARNOJ METODI LIJEČENJA U REPUBLICI HRVATSKOJ

Romana Lebar (VIRS, d.o.o., Slovenia) ; Božidar Veljković (Alma Mater Europaea, Slovenia)

VPLIV UMETNE INTELIGENCIJE NA NOTRANJE KOMUNIKACIJSKE PROCESSE V ORGANIZACIJSKIH STRUKTURAH

Lucija Dujmović (Intralot Adriatic, Hrvatska)

KORIŠTENJE AI U KREIRANJU PROMOTIVNOG SADRŽAJA PRIREĐIVAČA IGARA NA SREĆU

Zvonimir Pavković (Catholic University of Croatia, Croatia); Krešimir Dabo (Institute for Migration and Ethnic Studies, Croatia)

OSOBITOSTI FENOMENA KULTURE OTKAZIVANJA U SUVREMENOJ DIGITALNOJ KOMUNIKACIJI

Benedikt Perak (Filozofski fakultet, Sveučilište u Rijeci, Hrvatska)

UPOTREBA VELIKIH JEZIČNIH MODELA ZA RAZVOJ ASISTENATA KULTURNE INSTITUCIJE IVAN MATETIĆ RONJGOV

Jernej Šilak (Alma Mater Europaea, Slovenia) :

CLICKBAIT: ODSOTNOST USTREZNE REGULACIJE ODPIRA VRATA SPORNIM TAKTIKAM V SPLETNIH MEDIJAH

18:00-18:15 ZATVARANJE KONFERENCIJE

INVITED LECTURES

POZVANA PREDAVANJA

VABLJENA PREDAVANJA

CODING TRUTH: RESHAPING MEDIA NARRATIVES AND COMBATting DISINFORMATION IN THE ERA OF ARTIFICIAL INTELLIGENCE

Lana Ciboci Perša, Hrvatsko katoličko sveučilište

"The topic explores various AI-driven tools and technologies that aid in verifying facts, authenticating sources, and filtering out fake news. It also addresses the ethical implications and the necessity for transparent AI systems to ensure they do not perpetuate biases or distort information. Furthermore, it includes strategies for media literacy and public awareness to help individuals discern credible information from false content. It underscores the collaboration between technologists, journalists, and policymakers to create robust frameworks and regulations that uphold the integrity of information while fostering innovation in AI."

LARGE LANGUAGE MODELS OBSERVATORY: CREATING NEW BENCHMARKS FOR AI ALIGNMENT IN SENTIMENT ANALYSIS OF SOCIALLY CRITICAL ISSUES

Ljubiša Bojić, Digital Society Lab, Institute for Philosophy and Social Theory at the University of Belgrade

This lecture inquiries into the increasingly vital subject of Large Language Models (LLMs) and their profound influence on society. As artificial intelligence systems are progressively integrated into our societies, the necessity to critically understand and measure their impacts continuously increases. Our key focus will be to initiate the development of a benchmark for evaluating the sentiment of various LLMs, using methodologies such as the Likert scale survey. We will detail the analysis of seven LLMs, including GPT-4 and Bard, and contrast their sentiment data with that from three distinct human sample populations. In addition, we will analyse temporal sentiment variations over a sequential three-day period. The lecture concludes with an exploration of potential conflicts of interest, bias possibilities in LLMs, and an intriguing discussion about how these systems might subtly shape societal perceptions. Join us as we unravel how AI, mirroring human cognitive processes, could potentially develop unique sentiments and influence our opinions.



APPLIED ARTIFICIAL INTELLIGENCE, CHALLENGES AND TRANSFORMATION

Matej Mertik, Alma Mater Europaea, Slovenia

In this presentation, we will examine the dynamic landscape of AI, tracing its evolutionary journey from its inception in the early 20th century to the modern era of breakthroughs. The talk will encompass pivotal moments such as the inception of symbolic AI and the rise of neural networks, resulting in the emergence of Large Language Models (LLMs) and Generative AI. Alongside AI's advancements, the talk will scrutinize the challenges accompanying AI's ascent, including algorithmic biases, data privacy concerns, and ethical dilemmas. We will explore the transformative potential of AI across various industries while emphasizing the imperative of ethical frameworks to guide its responsible application.

AI: QUO VADIS HUMANITY (& DEMOCRACY)?

Robert Kopal, EFFECTUS University of Applied Sciences, Croatia

U prezentaciji se analiziraju ključni izazovi informacijskih poremećaja u 2024. te njihov utjecaj na demokraciju, sve s ciljem pronalaženja strategija za maksimiziranje benefita i minimiziranje rizika umjetne inteligencije.

KAKO AI MIJENJA NOVINARSTVO

Anamaria Todoric, Večernji list

Umjetna inteligencija (AI) značajno mijenja pejzaž novinarstva na više načina. Prvo, AI alati mogu analizirati velike količine podataka i generirati izvještaje ili članke brže i učinkovitije od ljudskih novinara. Također, AI se koristi za automatizaciju kreiranja sadržaja, pretvaranja teksta u audio ili video i obrnuto, prilagođavajući ih individualnim korisničkim preferencijama i ponašanjima. Uz to, AI može pomoći u provjeri činjenica i identifikaciji lažnih vijesti putem automatiziranih alata za provjeru autentičnosti informacija. Sve u svemu, AI mijenja način na koji novinari rade, poboljšavajući učinkovitost, točnost i prilagodljivost u digitalnom novinarstvu, ali i omogućavajući novinarima da više vremantroše na istraživačko novinarstvo, a manje na 'birokrativno' pisanje.

**COMMUNICATION STRATEGIES
AND MEDIA IN THE AGE OF
ARTIFICIAL INTELLIGENCE**

**KOMUNIKACIJSKE STRATEGIJE
I MEDIJI U DOBA UMJETNE
INTELIGENCIJE**

**KOMUNIKACIJSKE STRATEGIJE
IN MEDIJI V DOBI UMETNE
INTELIGENCE**

ASSESSING SENTIMENTS ABOUT ARTIFICIAL INTELLIGENCE USING ARTIFICIAL INTELLIGENCE ON THE EXAMPLE OF CROATIAN MEDIA

Ivana Erceg Matijašević, EU Programmes, Croatia

Martina Baričević Debelec, University of North, Croatia

Ljerka Luić, University of North, Croatia

The utilization of algorithms, applications, and tools, particularly in the context of artificial intelligence, constitutes a part of digital literacy essential for attaining and maintaining digital competitiveness in today's dynamic environment. Technological advancement, particularly in the context of artificial intelligence, introduces novel opportunities that rapidly transform jobs across diverse sectors, with the media being no exception. Nonetheless, inquiries arise regarding efficiency and reliability, where the boundaries of automation lie and the role of the human factor in nascent journalistic practices. In order to assess the perception and attitudes of Croatian media towards artificial intelligence and evaluate the efficiency of artificial intelligence in analyzing media communication, a study was conducted using Chat GPT. The study analyzed journalistic articles and assessed the sentiment of journalists and editors towards artificial intelligence and its use in journalism. Based on the findings, the set hypotheses were wholly or partially confirmed. The research revealed limited precision in applying artificial intelligence tools like Chat GPT. Moreover, drawing upon available information, it was concluded that sentiment analysis results in media articles about artificial intelligence do not deviate significantly from the attitudes of journalists and editors towards artificial intelligence derived from previous research. Finally, the research recognized the challenges associated with full automation of the sentiment analysis process, particularly emphasizing the need for human oversight and human verification of information. The undertaken study enhances comprehension regarding the perception of artificial intelligence in the Croatian media and emphasizes the need for further research aimed at comparative analysis with global trends.



DEEP INSIGHTS INTO AI PERCEPTION IN CROATIA

Robert Kopal, EFFECTUS University of Applied Sciences, Croatia

Darija Korkut, EFFECTUS University of Applied Sciences, Croatia

Krešimir Žnidar, Algebra University, Croatia

Artificial intelligence (AI) is not a new concept, but its wide recognition within the general population has started only recently, with publication of Open AI LLM platform ChatGPT, and has ever since intrigued public in terms of its influence on human life in general, and primarily its repercussions on labor market and the future of jobs. However, due to information proliferation on topics concerning AI, it has become confusing and challenging for an average person to process all the information and make a reasonable judgement. Fully aware of its capabilities and huge impact on everyday life, and despite of AI infodemic, we notice an imbalanced approach in public space favorizing only the positive aspects of the use of AI. AI will definitely mark our future and its responsible development and use can contribute significantly to the advancement of many areas of life. However, irresponsible development and use can cause unfathomable damage to humanity. The risks it can impose in terms of biased and untransparent algorithms, privacy violation concerns, cybersecurity issues, disinformation and deep fakes creation and dissemination, to name just a few. Professional and scientific literature and research in Croatia have not been especially prolific in this respect and the aim of the authors is to fill in this void. The aim of the paper, thus, is to provide a more balanced view of both advantages and disadvantages of the use of AI, particularly in the light of the super-election 2024 and the accompanying risks in the form of information disorders and consequences they might have on world democracy and stability. Furthermore, the aim of this (first) national research is to provide a deeper insight into the perception of AI within the Croatian population. Scientific and professional methodology was used to define and monitor key indicators of AI perception and search for corresponding correlations. The outset of what is intended to be transversal research combines CAWI and CATI methods on a sample of 1018 and 300 respectively.

Topics covered by the research are exposure to information about AI, AI viewpoints, AI influence on society and individuals, and trust in AI. The results show mid-level AI use among participants, major sense of worry and uncertainty among citizens regarding AI, anxiety about the future of jobs and overwhelming concern about human relations with respect to the influence of AI.

ARTIFICIAL OR INTELLIGENT MEDIA RELATIONS - PERSPECTIVES AND POTENTIALS OF ARTIFICIAL INTELLIGENCE IN GENERATING PRESS RELEASES

Kristijan Sedak, Catholic University of Croatia, Croatia

Miro Radalj, The Faculty of Humanities and Social Sciences, University of Mostar,
Bosnia and Herzegovina

Barbara Poslek, Catholic University of Croatia, Croatia

Artificial intelligence (AI) is becoming increasingly popular in text generation due to its ability to follow spelling and grammar rules and its extensive knowledge base, making it an attractive tool for public relations (PR). This study examines the reliability of AI in producing press releases for media relations, focusing on large language models developed for interpreting and generating human language. Various free and paid AI tools, such as Microsoft's Copilot, Google's Gemini, and OpenAI's Chat GPT and GPT-4, were used to generate press releases in Croatian and English. In addition, four commercial AI tools tailored for PR professionals – Jasper, PROphet, Prowly, and MarketersMEDIA – were analysed for effectiveness based on recommendations from industry experts. The quality of the press releases was assessed by analysing the content using a pre-defined matrix. Initial results suggest that AI can produce press releases that are grammatically correct and contextually relevant, although it is crucial to carefully define the parameters when assigning tasks. Some models, such as ChatGPT, demonstrate greater accuracy and stylistic suitability for producing professional texts, especially in Croatian. However, human oversight and adaptation are essential for maintaining high-quality press releases, highlighting the need to integrate human expertise into AI-generated content creation processes. AI streamlines the process of creating press releases compared to traditional methods and reduces the time it takes to produce communication materials. Furthermore, differences in the effectiveness of AI tools across different languages were observed. This study lays the foundation for further research into the role of AI in PR practise. The insights gained here can help PR practitioners optimise the use of AI for media content creation, leading to greater efficiency and cost savings. From a scientific perspective, this study contributes to the understanding of the capabilities and limitations of AI in text generation, paving the way for further development and refinement of AI tools for this purpose.



ARTIFICIAL INTELLIGENCE IN JOURNALISM: APPLICATION POSSIBILITIES AND ETHICAL ASPECTS (INFORMATION AND MISINFORMATION)

Hrvoje Kovač, Pučko otvoreno učilište Varaždin, Croatia

Gordana Lesinger, University North, Croatia

This scientific paper investigates the intricate relationship between artificial intelligence (AI) and journalism, scrutinizing its application possibilities and ethical dimensions, particularly concerning information and misinformation. Focusing on journalism, media, and journalists, the study delves into the principles that underpin journalistic practices and navigates the ethical challenges posed by AI. Addressing key concerns such as information and disinformation, the battle against fake news, bias in AI algorithms, privacy considerations, and the imperative for accountability and transparency, the research underscores the sustainability of the journalistic profession in an AI-infused media landscape. Central to the investigation is an exploration of attitudes and perceptions regarding the integration of AI in journalism, drawing insights from students of Communication Studies, Media and Journalism, and Public Relations at the University of the North, alongside inputs from professional journalists. Methodologically, the paper employs a survey questionnaire, structured in two parts – general and thematic – constructed through consultation with relevant professional literature.”

STAV O DIGITALNOM OTISKU – PREDIKTOR DIGITALNE PISMENOSTI GENERACIJE Z

Maja Mlakar, Sveučilište Sjever, Hrvatska

Ljerka Luić, Sveučilište Sjever, Hrvatska

Generacija Z danas se smatra vještom u digitalnome okruženju, ali neka istraživanja pokazuju da im bez obzira na snalaženje u novoj tehnologiji, nedostaje kritički pristup prema informacijama i sadržaju. Kako mladi svakodnevno koriste Internet, pregledavaju raznovrsne sadržaje, dijele ih, ali često ih i samostalno kreiraju, za sobom ostavljaju digitalni otisak ili namjernih poput objava na društvenim mrežama ili web stranicama. S obzirom na sve veću izloženost Internetu, važno je osvijestiti pozitivne i negativne strane. Upravo digitalni otisci pružaju odličan uvid u to kako nove tehnologije utječu na živote mnogih. Digitalni otisak omogućuje doseg do privatnih informacija o pojedincima poput pogleda na svijet, političke svjetonazore, religijska uvjerenja, osobine ličnosti, obrazovanje, adresu i brojne druge podatke. Poslodavci takve informacije mogu koristiti tijekom donošenja odluke o zapošljavanju kandidata, no nisu svi pojedinci svjesni takvih mogućnosti tijekom pregledavanja sadržaja ili dijeljenja sadržaja o sebi i drugima. Cilj je ovog pilot istraživanja pružiti uvid u stavove studenata o digitalnome otisku i usporediti hoće li studenti s višom samoprocjenom digitalne pismenosti imati bolje rezultate. Podaci su se prikupljali pomoću anketnog upitnika, a u istraživanju su sudjelovali studenti svih godina fakulteta u Republici Hrvatskoj kako bi se vidjelo hoće li rasti njihova osviještenost o digitalnom otisku što je bliže njihov završetak fakulteta, odnosno odlazak na tržište rada. Studenti su iskazivali stavove o digitalnome otisku s obzirom na online aktivnosti, dijeljenje osobnih informacija, online transakcije, online platforme te privatnost i sigurnost. Utvrđivanje razlike u stavovima studenata ovisno o vrsti studijskog programa koji pohađaju, njegovu znanstveno-umjetničkom području, utvrđeno je primjenom komparativne analize. Obradom dobivenih rezultata moguće je tentativno zaključiti kako digitalni otisak predstavlja značajan prediktor digitalne pismenosti generacije Z, no isto tako iz njih je razvidno da u nastavku istraživanja treba akceptirati i istražiti stavove poslodavaca.



UMJETNA INTELIGENCIJA U IZRADI TVRDIH I MEKIH VIJESTI – NOVINARSKE VRSTE I INTERESI ČITATELJA

Boris Beck, Fakultet političkih znanosti Zagreb, Hrvatska

Marin Galić, Sveučilište Sjever, Hrvatska

Tvrde vijesti donose novosti o prijelomnim događajima, iz sfere društvenih tema, a meke su orijentirane na teme iz zabave. Meke vijesti obuhvaćaju raznovrsne tekstove informativne, savjetodavne, pripovjedne, opisne, instruktivne, kroničarske, interpretacijske i drugih funkcija, u žanrovima kao što su tračevi, putopisi, recenzije, recepti, horoskopi i različiti savjeti. Tvrde vijesti se u načelu više čitaju od mekih, no ne samo da i u tome ima iznimaka, nego mekih vijesti ima i više jer njihova proizvodnja nije ograničena aktualnim događajima. U radu se provodi istraživanje pomoću fokus grupe u kojem se istražuju stavovi konzumenata medija prema tvrdim i mekim vijestima: koje radije prate i zašto, kojima više vjeruju te kojih bi rado vidjeli više u medijima. Zbog interesa publike mediji su dužni proizvoditi i tvrde i meke vijesti, a umjetna inteligencija pomaže im pritom na različite načine. Dosadašnja iskustva pokazuju da se umjetna inteligencija uspješno koristi za proizvodnju vijesti na temelju servisnih informacija (vremenska prognoza, sportski rezultati, burzovna izvješća, analize kretanja cijena), jer u tim procesima nema osoba. S druge strane, zabavne sadržaje (lifestyle, hrana, putovanja, bizarnosti) umjetna inteligencija može uspješno nalaziti na društvenim mrežama zahvaljujući poznavanju trendova pretraživanja te se tako mogu nadopunjavati tvrde vijesti. Svrha rada je da pojasni razliku između tvrdih i mekih vijesti te da istraži koliko kojih publika više želi kako bi redakcije mogle prilagoditi svoje alate umjetne inteligencije.

**REGULATORY AND POLITICAL
ASPECTS OF ARTIFICIAL
INTELLIGENCE**

**REGULATORNI I
POLITIČKI ASPEKTI
UMJETNE INTELIGENCIJE**

**REGULATIVNI IN POLITIČNI
VIDIKI UMETNE INTELIGENCE**

ARTIFICIAL INTELLIGENCE DEVELOPMENT AND HUMAN RIGHTS: A POSSIBLE DIALOGUE

Ludmylla Mariana Anselmo, University of Barcelona, Spain

Luiza de Paula Araujo Galvao Cunha, University of Barcelona, Spain

Thiago Bezerra Vilar, University of Salamanca, Spain

Artificial Intelligence is in constant development. Given the impacts, some minimum vectors must be established, since natural language models of AI must serve human beings and the common good. In this sense, the Universal Declaration of Human Rights is clear when establishing that “the human person is the central subject of development and should be the active participant and beneficiary of the right to development”. In this context, it is essential to have a dialogical system that brings together those responsible for AI natural language services, representatives of the government, society that respects the diversity of segments, stakeholders, researchers, and jurists for a mutual understanding of the risks that the activity offers to create tools, through mutual collaboration and shared responsibilities, that harmonize scientific progress with human and social development, minimizing the potential risks of the service. The need for dialogue between technological progress and human rights is not a new challenge for the field of legal regulation. Despite the complexity of the interests involved, this harmonization has been developed over the years in other areas, such as concerning the environment, which developed the principles of prevention, and precaution to ensure economic development without sacrificing sustainability. In this way, a reasonable balance between the interests involved in the use of artificial intelligence tools is also possible. In this sense, the United Nations, through A/HRC/RES/8/7, emphasizes the duty of companies to respect human rights and highlights the importance of adequate regulation to guarantee compliance with these rights, in addition to highlighting the need for multilevel governance efforts to address the challenges of globalization and ensure that business activities contribute to the full enjoyment of human rights and fundamental freedoms. A dialogical system with broad participation is essential to ensure that the use of artificial intelligence is based on transparency, fair and equitable distribution of costs and benefits, and respect for human rights and fundamental freedoms.



AI ACT- STRIKING A DELICATE BALANCE BETWEEN REGULATION AND INNOVATION

Sanja Grbović, Faculty of Law, University of Montenegro, Montenegro

Having in mind that the European Union has positioned itself as a global leader in the advanced stages of formulating legislation for the regulation of AI, the primary objective of this paper is to offer a detailed examination of four specific risk levels, as categorized by the Union: unacceptable, high, limited, and minimal risk, in order to guarantee that AI systems introduced into EU market are both secure and in conformity with the fundamental values and rights of the Union.

ARTIFICIAL INTELLIGENCE IN THE METHODOLOGY OF POLITICAL EDUCATION

Lidija Eret, Faculty of Political Science, University of Zagreb, Croatia

The main goal and purpose of this paper is to show how is the use of artificial intelligence applicable and how it contributes to the teaching process improvement of the political and ideological education. The subject of the research is closely related to new digital technologies that are implemented in education, where the application of artificial intelligence in the political and ideological education shows a specific perspective of modern teaching approaches and methods, as well as their effectiveness. The results of the contemporary research show how to successfully apply artificial intelligence in the political and ideological education, but also show certain challenges experienced by students, teachers and researchers. The main tendency of this research niche is to present to the academic community modern methodological approaches to the political and ideological education and offer suggestions for the future progress of teaching methods and strategies in this scientific branch, which is correspondent to the development of digital technologies.

ANALIZA PERCEPCIJE POLITIČKIH PORUKA: UMJETNA INTELIGENCIJA VS. LJUDSKI IZRAZ

Ivana Belic, REGEA, Hrvatska

Irena Klepac Mustać, Odvjetničko društvo Kamenar Milutin i Klepac Mustać, Hrvatska)

Manuela Bukovec, OTP Leasing d.d., Hrvatska

U suvremenom političkom okruženju, sveprisutna upotreba umjetne inteligencije (AI) postavlja pitanje jesu li građani u mogućnosti prepoznati razliku između političkih poruka stvorenih od strane umjetne inteligencije i onih napisanih od strane živih ljudi? Ova istraživačka tema ima za cilj istražiti percepciju javnosti o ovom pitanju kroz anketno istraživanje stavljajući pred anketirane dvije poruke iz različitih izvora, živog i neživog odnosno umjetnog. Pretpostavlja se da prosječan građanin neće biti u mogućnosti pouzdano prepoznati razliku između političke poruke napisane od strane umjetne inteligencije i one koja potječe od ljudi, sugerirajući da su umjetna inteligencija i ljudski izraz postali neodvojivi u političkom komuniciranju. Istraživanjem će se dati pregled i pravnog aspekta teme u cilju poticanja daljnjih istraživanja na temu.

**ARTIFICIAL INTELLIGENCE
IN THE CREATIVE INDUSTRY
AND ECONOMY**

**UMJETNA INTELIGENCIJA
U KREATIVNOJ INDUSTRIJI
I GOSPODARSTVU**

**UMETNA INTELIGENCA
V KREATIVNI INDUSTRIJI
IN GOSPODARSTVU**

THE USE OF AI IN GERMAN DESIGN- AND ADVERTISING AGENCIES – THE INFLUENCE ON THE ORGANIZATIONAL STRUCTURE AND THE ACTIONS OF INDIVIDUAL ACTORS

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The advent of ChatGPT software has profound implications, permeating various industries in recent months as AI capabilities continue to evolve. The creative sector is no exception, with AI shaping human perspectives on creativity and the creative process (Lee, 2022). AI enhances innovation and automation in content creation, integrating diverse technological methods for more engaging output. Giddens' 'structuration theory' (1997) posits that actions and structures interact, and actors influence social conditions through their actions. As AI transforms actions and knowledge about them, it prompts interest in exploring resulting structural changes. Actions also can be confirmed or restricted by organizations, as evidenced by a qualitative content analysis of advertising industry expert interviews (n=10). This analysis unveils current AI tools' impact on human creativity requirements, examining evolving tasks and actions. The study also considers potential changes in organizational structures due to AI and its impacts. The premise is that the ability to control and effectively use AI will redefine the concept of creativity, transforming the organizational structure (Margaryan, 2023).



ARTIFICIAL INTELLIGENCE WITHIN GRAPHICAL PRODUCTION MANAGEMENT CONTEXT

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20th century was marked by computing revolution: e. g. in mid eighties - Steve Jobs' Macintosh 128 K was considered as reinvention of personal computers and thanks to complexity of achievements in the field of graphic technologies integrated into computing science: computer calligraphy. So, graphic designed by informatics and engineering delivered new approach to science, culture, economy, and education at the beginning of the 21st century: the era of computing memory.

Talking of the concept of the memory within computing science(s) in 1980's did not appear in the field of the very science, but in computing practice: the computing memory market place led by pioneers of the revolution in the field of artificial memory production over the 1990's. And that was Personal Computer idea consisted in - before digital age. Huge skip happened when Steve Jobs invented "portable memories" - musical and communication gadgets (iTunes, iPod) and, of course: iPhone - highlight of modern technology of 21st c., where the interface concept was extremely changed: computing calligraphy was changed by digital graphic attached to the (iOs) App(s) construction(s). This reinvention of the digital graphic (interface) and multiply software actions hidden but displayed onto touch screen(s) concept made significant change in the graphical production management and offset printing, too. Our thesis is that graphic production programs (developed by the prominent group of people at the beginning of 2000s at Croatian speaking area and which will be discussed in the given elaboration) might be considered as information exchange and managing software platform for developing time saving machine and graphic production management. Tracing the answer on the given question authors want to offer herein: Regarding graphic production related to digital web offset workflows, is it a question of software memory or AI process management?

THE ROLE OF INTELLECTUAL PROPERTY IN INDUSTRIAL PROGRESS - A CASE STUDY AT EU LEVEL

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Industry represents a key segment and driver of society, encompassing various professions and professions. What unites them is the concept of innovation, which essentially distinguishes developing industries from manufacturing ones. Since development often runs into dead ends and it is difficult to monetize effort, intellectual property (IP) becomes a key "intangible" value that, through technology transfer, can be the only liquid item. In 2023, the European Patent Office (EPO) conducted an EU-wide study that confirmed that "start-ups" have an even 10 times greater chance of success if they choose to protect their intellectual property, enabling them to break into the market and achieve financial results compared to those who do not. When compared, 29% of all EU based start-up have filed some sort of IP rights, mostly patents, with big distinctions between the desired sectors. It is also estimated that the most of those start-ups consider EU patent/trademark strategy more interesting than the national IP one. This paper explores the recommended steps and strategies that should be taken to effectively protect IP, thus preserving the investment made in money, time and knowledge.

THE FUTURE OF DEEPPAKE TECHNOLOGY: ADVANTAGES AND CHALLENGES

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Lately the deepfake content increased rapidly and some of the positive aspects of such technology are opportunities for creativity, spreading ideas and projecting them into images or videos. There is also advantage in saving work time and finances. Furthermore, the possibility of hyper-personalization is also very important in the field of marketing and sales. Deepfake technology is also an excellent instrument for the field education, teaching and learning. Negative aspect or the abuse of deepfake technology is deepfake pornography, extortion, fraud, forgery and falsification of documents. Furthermore, the great danger lies in the luring of children on the Internet, the spread of misinformation and the manipulation of public opinion. All of the above has an impact on society: it develops mistrust and creates irreversible damage, fear and confusion. The goal of this paper is to define deepfake technology and show its advantages and challenges. It is necessary to show negative and positive perspectives in the social context, that is, to show that it is not an isolated phenomenon, but directly and indirectly impact numerous spheres of social life.



ANALIZA SENTIMENTA KAO METODA ZA MJERENJE IMIDŽA U TURIZMU

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Internetom se danas nastoji na sve moguće načine privući pozornost svakog korisnika koji pregledava i dijeli informacije sa svrhom da ga što više koristi, da pretražuje informacije i u svakoj prilici ostavlja svoje komentare na razne sadržaje, ponuđene usluge i proizvode. Suvremeni korisnici na internetu generiraju različite zapise, posebno na društvenim mrežama i raznim web servisima, a takvi zapisi u obliku tekstova i komentara ne samo da sadrže činjenice, već i emocionalne reakcije na podražaje. Analiza sentimenta može se nazvati i dubinskim pretraživanjem mišljenja, a podrazumijeva računalnu obradu prirodnog jezika i primjenu analitičkih postupaka radi dobivanja uvida u stavove i mišljenja pojedinaca. Cilj ovoga rada je ispitati primjenjivost metode računalne analize sentimenta za mjerenje imidža u turizmu putem popularnih softverskih rješenja. Time se podrazumijeva dubinska analiza podataka o mišljenjima, stavovima i ponašanjima on-line korisnika turističkih usluga na primjeru jedne odabrane grupe hrvatskih hotela, pri čemu autori žele ispitati u kojoj se mjeri korisnici istih usluga izražavaju pozitivno, negativno ili neutralno u svojim izjavama i komentarima.

**ARTIFICIAL INTELLIGENCE
IN THE HEALTH SYSTEM**

**UMJETNA INTELIGENCIJA U
ZDRAVSTVENOM SUSTAVU**

**UMETNA INTELIGENCA V
ZDRAVSTVENEM SISTEMU**

AUGMENTED REALITY (AR) U SIMULACIJI ESTETSKIH REZULTATA: KREATIVNA REVOLUCIJA U ESTETSKOJ MEDICINI

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*Istraživanje ima za cilj identifikaciju da li tehnologija proširene stvarnosti (augmented reality – AR) omogućava pacijentima realističan prikaz očekivanih rezultata estetskih zahvata i na koji način estetski kirurzi integriraju AR u konzultacije kako bi poboljšali razumijevanje pacijenata o predstojećem postupku. Uzorak istraživanja činilo je 80 pacijenata kojima je prije podvrgavanja estetskim zahvatima bio dat prikaz očekivanih rezultata estetskih zahvata. Istraživanje je provedeno u Puli i Rovinju (Hrvatska). Za potrebe ovog istraživanja konstruirana je Skala procjene AR realizma estetskih rezultata. Rezultati dobiveni istraživanjem su obrađeni putem programa SPSS23 za obradu podataka. Spoznaje sugeriraju da preciznost i doživljajnost AR tehnologije mogu značajno doprinijeti pozitivnom iskustvu pacijenata, poboljšavajući njihovu percepciju očekivanih rezultata i doprinoseći ukupnom uspjehu estetskog postupka. Uvođenje AR tehnologije u kiruršku praksu poboljšava preciznost i učinkovitost estetskih zahvata, pružajući kirurzima realističan prikaz očekivanih rezultata, dok istovremeno pacijenti-
ma omogućava detaljan uvid u buduće estetske promjene.*



ODNOS KORISNIKA ZDRAVSTVENIH USLUGA PREMA UMJETNOJ INTELIGENCIJI

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Koristi i prednosti umjetne inteligencije (UI) su u tome da smanjuje niz ponavljajućih postupaka, kao i povećanje dijagnostičke kvalitete pri očitavanju medicinskih slika. Nudi algoritme za autonomnu obradu skupova slikovnih podataka te zdravstveno osoblje može koristiti vrijeme za rješavanje mnogo većih broja slučajeva. Značajno je utvrditi odnos korisnika zdravstvenih usluga prema UI, tj. njenu uvođenju u zdravstvenu zaštitu, odnosno postaviti pitanje i otvoriti diskusiju predstavlja li UI priliku za poboljšanje funkcioniranja zdravstvenog sustava. Najveći broj ispitanika (143 ili 60,3%) slaže se s tvrdnjom da je UI vrlo korisna prilikom naručivanja lijekova putem telefona. Budući se radi o srednjoj i starijoj populaciji, to je i razumljivo, jer većina bolesnika boluje od jedne ili više kroničnih bolesti te im je vrlo praktično naručivati lijekove telefonskim putem nego da odlaze liječniku u ambulantu. Također se veliki broj ispitanika (137 ili 57,8%) slaže s tvrdnjom da je UI vrlo korisna prilikom naručivanja na dijagnostičke pretrage poput RTG, UZV, CT, MR ili drugih, kao i korištenje u kirurškim strukama. Slično se odnosi i na naručivanje pacijenata u bolnicu (130 ili 54,9%). S druge strane, veliki broj ispitanika (198 ili 83,5%) se ne slaže s tvrdnjom da UI može u potpunosti zamijeniti liječnika ili medicinsku sestru (194 ili 81,9%). Istraživanje pokazuje da ljudi zaključuju da UI igra sve veću ulogu u medicini i zdravstvu, posebno za olakšavanje nekih tehničkih i administrativnih problema te za analizu medicinskih podataka, uključujući slike, laboratorijske rezultate, genetske informacije i kliničke zapise pacijenata.

S druge strane, vrlo su skeptični na činjenicu da UI može u potpunosti zamijeniti rad liječnika, medicinske sestre ili drugog zdravstvenog djelatnika.

**APPLICATION OF ARTIFICIAL
INTELLIGENCE IN THE
EDUCATIONAL CONTEXT**

**PRIMJENA UMJETNE
INTELIGENCIJE U
OBRAZOVNOM
KONTEKSTU**

**UPORABA UMETNE
INTELIGENCE
V IZOBRAŽEVALNEM
KONTEKSTU**

ASSESSMENT OF THE DIGITAL LITERACY INFLUENCE ON THE ADOPTION OF AI-BASED TOOLS

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Daily utilisation of diverse digital tools position marketing professionals as early adopters of emerging technologies. As well, a range of artificial intelligence (AI) systems for text, image, video, and audio content generation affords them flexibility in processing extant content and creating novel creative assets. However, the existing research lacks a clear understanding of the relationship between digital literacy (DL) and the propensity of AI tools utilisation, and this study investigates this among marketing professionals. An online survey among 219 marketing practitioners employed in diverse domains was disseminated. The findings revealed that marketing professionals who self-assessed their DL as very good or excellent, use AI tools more frequently. Similarly, the ones who self-assess their attitude towards AI as positive are more inclined to use AI-based tools. Still, among marketing professionals age does not impact the use of advanced technologies. The study also highlighted a lack of correlation between AI tool usage and considerations of digital security that suggests a potential oversight in the comprehensive understanding and responsible use of AI based tools.



CO-DESIGNING INCLUSIVE LEARNING ENVIRONMENTS WITH ARTIFICIAL INTELLIGENCE

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The objective of this paper is to address the need for increased capacity of higher education teachers and students to manage an effective shift towards inclusive learning environments through creation of e-service-learning (e-SL) experiences that integrate artificial intelligence into the academic curriculum. Inclusive design, as one of the user-centered design approaches, has the potential to help students appreciate user capabilities, needs, and expectations (Dong, 2010). It strives to meet the needs of a wider spectrum of individuals, including able-bodied users and those with specific needs (Goodman-Deane et al. 2010). e-SL is a course-based, credit-bearing educational experience in which students participate in an organized service activity that meets identified community needs, and they reflect on the service activity to gain further understanding of course content, a broader appreciation of the academic discipline, and enhanced sense of civic responsibility. In e-SL the educational experience can be mediated by artificial intelligence, wherein the instructional component, the service component or both are conducted online. The meta-analysis of various strategies of integration of meaningful community service into academic curriculum discovered that e-SL can be useful in reducing educational inequality, especially if it involves students in community activities with the aim of transforming them into promoters of social empowerment (Modić Stanke & Mikelić Preradović, 2023). In this paper we will present the e-SL pedagogical approach based on experiential learning (Salam et al., 2019) through inclusive design experiences that were developed as part of two European projects: e-Service-Learning for more digital and inclusive EU Higher Education systems (eSL4EU) and Service-Learning as a pedagogy to promote Inclusion, Diversity, and Digital Empowerment (SLIDE).

The research question that was investigated is How to shape an inclusive design education that is both responsive to the target user's needs and to the diversity of students' needs, interests and their professional and personal context?

Using the Microsoft Inclusive Toolkit and ChatGPT in the role of the person with permanent disability, students in our case study followed five phases of a design process as a linear, comprehensive guide in creating inclusive e-service-learning solutions. Upon completion of their task, they were able to generate digitally empowered e-SL design concepts base.

AI AND WRITING SKILLS: STUDENTS' ATTITUDES TOWARDS USING AI TO ENHANCE THEIR WRITING BASED ON THE EXAMPLE OF ALGEBRA UNIVERSITY STUDENTS

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Tihana Banko, Algebra University, Croatia

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The advent of publicly available AI in the last years has resulted in a major paradigm shift. Its use is starting to pervade most fields and aspects of life—including the world of academia. This paper explores how Algebra University students use AI for writing and their attitudes towards this use. The research was done in two parts. The first part comprised one of the students' required writing assignments. The students were encouraged to use AI, but with a caveat that the final version may not be more than 35% AI-generated. The second part of the research was a short anonymous questionnaire. The aim was to determine whether the students think that AI tools embetter their writing in terms of both language proficiency—a point of particular interest as most of the students are non-native speakers of English—and creativity. The paper presents an analysis of the students' responses and supporting findings of other papers on AI's role in writing. While the results indicate that students believe AI to be helpful in general and that it enhances their writing skills, its role in and impact on creative writing still remain unclear and require further research into this complex topic.



UMJETNA INTELIGENCIJA: PRILIKA ILI PRIJETNJA? PERSPEKTIVA STUDENATA KOMUNIKOLOGIJE

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U predloženoj radu promatramo korištenje generativne umjetne inteligencije među studentima komunikologije na dvama Sveučilištima: zagrebačkom i dubrovačkom u njihovom svakodnevnom učenju, studiranju i pretraživanju te kreiranju medijskih sadržaja. Posebna se pozornost pri tome posvećuje korištenju popularnog alata ChatGPT. S time u vezi, zanima nas što studenti smatraju dozvoljenim i pozitivnim a što prijetnjom u korištenju umjetne inteligencije. Također nas zanima i koliko su svjesni svoje, ali i prilagodbe matičnih studija razvoju tehnologije te kako kao studenti komunikologije doživljavaju medijski kontinuitet. Naime, oni kao pripadnici generacije medijske djece, prema istraživanju Reutersovog instituta, društvene mreže koriste kao glavni izvor informiranja s istodobno visokim stupnjem povjerenja u virtualne suvremene komunikacijske oblike (Digital News Report, 2023) te najčešće komuniciraju isključivo putem interneta i aplikacija za dopisivanje te isključuju određene informacije, odnosno, do njih dolaze samo sadržaji koji prate njihove interese (Montag i dr, 2024). U tom smislu u predloženoj radu, profesionalno i akademsko učenje o medijima promatramo u suodnosu s medijskom pismenošću, odnosno sa sposobnosti kompetentnog i primjerenog služenja suvremenim medijima, što ujedno pretpostavlja i upotrebu umjetne inteligencije, te kroz prizmu provjeravanja kritičnosti i odgovornosti studenata prema medijskim sadržajima. S druge strane, na temelju provedenog anketnog istraživanja nastojimo saznati i potencijalno zaključiti o tome kako studenti promišljaju integraciju računalnih alata u svakodnevni rad medijskih djelatnika te smatraju li da je time narušen kredibilitet struke s obzirom na temeljne postulate koji predmnijevaju istraživački pristup i provjeru izvora informacija. Stoga u anketi propitujemo i kako procjenjuju ulogu umjetne inteligencije u stvaranju medijskih sadržaja. Ciljevi istraživanja jesu utvrditi: osnovne modalitete konzumacije i navike studenata u korištenju suvremenih medija i alata umjetne inteligencije u učenju i kreiranju vlastitih medijskih sadržaja te stavove o objavama u medijima koje su nastale uporabom umjetne inteligencije i s time povezano povjerenju u suvremene medije.

**INFLUENCE OF ARTIFICIAL
INTELLIGENCE ON CREATIVITY**

**UTJECAJ UMJETNE
INTELEGENCIJE NA
KREATIVNOST**

**VPLIV UMETNE INTELEGENCE
NA USTVARJALNOST**

AI'S CREATIVITY AND COMMON SENSE TURING TESTS

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In the CFP it is stated that AI has 'no real human creativity' and cannot produce 'truly original ideas'. Such objection to AI was already refuted in advance by Turing in his 1950 paper that also included a description of what would later become known as 'Turing test'. Contrary to Turing, currently prevailing versions of the Turing test use a common sense conception of how we think we think to demean AI's creative potentials. My paper will be a critique of such common sense Turing tests.

DRUŠTVO I TEHNOLOGIJA; KREATIVNE INDUSTRIJE I UMJETNA INTELIGENCIJA

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Tehnološki napredak posljednjih desetljeća sve više utječe na načine na koje društvo funkcionira, posebno u području kreativnih industrija. Umjetna inteligencija, kao grana tehnologije koja simulira ljudsko razmišljanje i ponašanje, postaje sve više prisutna u svakom području ljudskog djelovanja. Stoga je cilj ovog rada prikazati interakciju između društva i tehnologije, s posebnim naglaskom na kreativne industrije i umjetnu inteligenciju, odnosno cilj je analizirati i prikazati načine na koje umjetna inteligencija utječe na kreativne procese, u djelatnostima povezanim s individualnom kreativnosti, vještinama i talentima. Prikazane su prednosti i izazovi koje donosi umjetna inteligencija u kreativnim industrijama. S jedne strane, umjetna inteligencija može pomoći u generiranju novih ideja, istraživanju velikih skupova podataka i stvaranju inovativnih sadržaja. S druge strane, postoje etička pitanja vezana uz autentičnost sadržaja koju stvara umjetna inteligencija i utjecaj na zapošljavanje pojedinaca. U radu se provodi analiza zastupljenosti korištenja umjetne inteligencije u kreativnim industrijama i spremnost na prilagodbu pristupa aktivnostima u kreativnim industrijama koji promiču suradnju između ljudi i tehnologije u kreativnim procesima. Doprinos ovoga rada očituje se u generiranju novih spoznaja o korištenju umjetne inteligencije u kreativnim industrijama te u prednostima i nedostacima koji se kroz nju očituju.



WHEN A ROBOT SINGS A LULLABY. AN ETHICAL PERSPECTIVE ON THE INTERSECTION OF AI AND INTERGENERATIONAL COLLECTIVE MEMORY

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The influence of artificial intelligence (AI) on our future is a cutting-edge topic extensively addressed in many disciplines. However, the impact of AI on the past is much less discussed both in academia and the public sphere. The intersection of AI and collective memory brings enormous potential along with substantial challenges. This paper explores how AI affects the formation, reconstruction, and storage of (collective) memory, as well as the most important ethical challenges in this interaction. The focus is particularly on how AI influences the function of our individual declarative and autobiographical memory processes, reshaping traditional ways in which collective memories are formed and maintained. AI can be used to create fairer, unbiased, and bonding forms of collective memory. On the flip side, drawing upon recent discoveries in neuroscience and cognitive psychology, AI can more than ever easily reshape, misuse, and manipulate our collective interpretations and uses of the past (this ranges from implementing false memories to suggestive interpretation and use of real memories, blurring the difference between real and virtual memories, and more). This evokes a number of ethical questions related to power inequality, information asymmetry, “editorial wars”, user perspective vs. truth, temporal and spatial limitations, “digital immortality”, authenticity, to name a few. Against this backdrop, the paper will bring to the fore two examples of digital memory in the field of creative industry to facilitate discussion: 1. “virtual witnessing” as a part of a broader project “New Dimensions in Testimony” (NDT), which focuses on emerging technologies combining AI, pioneering visualization techniques, and social robots to store and interactively communicate memories; 2. “Living Memories” concept and “Here-After” platform, which focuses on interactive digital mementos created from an individual’s data to assist in learning about historical events and remembering our loved ones once they are no longer with us. We explore the potential of these technologies to impact individual and collective memory in a human-like manner, as well as the ethical controversies that arise. The implications of promoting inclusive collective memories based on objectivity and representation of all social groups, as well as the “imperfections” of human memory, are particularly crucial in the broader context of contemporary global society marked by new and old tensions.

FILMSKI PRIKAZI UMJETNE INTELIGENCIJE - FANTASTIKA ILI UPOZORENJE ZA BUDUĆNOST?

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Rad je usmjeren na prikaz umjetne inteligencije na filmovima i nastoji odgovoriti na pitanje uolikoj mjeri je film predvidio kojim se putem ona razvija i koliko su realne opasnosti u primjeni umjetne inteligencije na koje film kao medij upozorava. Rad se fokusira na filmove :

- *"2001. Odiseja u svemiru" Stanleya Kubricka 1968. (na svemirskom brodu računalo HAL 9000 ubija astronaute o kojima treba brinuti)*
- *"Terminator" 1. i 2. Jamesa Camerona 1984. i 1991. (program Skynet objavljuje rad čovječanstvu)*
- *"Her" Spikea Jonzea 2013. (glavni lik zaljubljuje se u računalni program virtualne partnerice)*
- *"Istrebljivač" Ridleya Scotta 1982. (androidi ubijaju ljude u nastojanju da izbjegnu programiranu smrt)*
- *"Matrix" 1999. braće Wachowski (prikaz budućnosti u kojoj ljudi žive u simuliranoj stvarnosti koju su stvorili strojevi kako bi kontrolirali ljude)*
- *"Demonско sjeme" 1977. Donalda Cammella (superračunalo pokušava oploditi ženu kako bi konačno dobilo ljudsko tijelo).*

Rad će posebno istaknuti i stvarne slučajeve u kojima je umjetna inteligencija napala ljude ali i područja u kojima je nanijela štetu ljudskim aktivnostima.

U zaključku, rad će nastojati dati odgovor na pitanje jesu li filmski prikazi umjetne inteligencije samo znanstvena fantastika za zabavu gledatelja ili ozbiljno upozorenje ljudskoj rasi za budućnost.



METAFORA KAO KOGNITIVNI INSTRUMENT U INSTITUCIONALNIM TEKSTOVIMA

Suzana Jurin, Filozofski fakultet u Rijeci, Hrvatska

Ovaj rad analizira ulogu metafore u tekstovima najave. Najava je tekstna vrsta asertivnog tipa, podtipa informativ, a kojom se komunicira u instituciji Hrvatske gospodarske komore-Županijske komore u Rijeci. Uprkos činjenici da su tekstne vrste ovoga tipa u institucionalnoj komunikaciji shematizirane i standardizirane, ovaj rad dokazuje da su tu metafore ipak prisutne, i da su one istovremeno pokazatelji načina konceptualizacije menadžmenta. U tom smislu se zaključuje da se odnosi u menadžmentu temelje na metafori ZAPOSLENICI SU ROBA, pri čemu je to varijanta nadređene metafore LJUDI SU ROBA, kao i SVA ULAGANJA U ZAPOSLENIKE predstavlja varijantu metafore UNOSNA INVESTICIJA. Iz analize korpusa može se zaključiti da koncept menadžmenta sadrži elemente koji se tematiziraju metaforički i pri tome se stvaraju mentalni modeli razmišljanja i usvajanja koncepta o zaposlenicima kao i o menadžmentu, a isto se reflektira i na poslovanje, produktivnost i ponašanje menadžera u instituciji.

**ANALYTICAL PROCESSING
OF DATA AND INFORMATION
THROUGH ARTIFICIAL
INTELLIGENCE**

**ANALITIČKA OBRADA
PODATAKA I INFORMACIJA
POMOĆU UMJETNE
INTELIGENCIJE**

**ANALITIČNA OBDELAVA
PODATKOV IN INFORMACIJ
PREKO UMETNE INTELIGENCE**

AUTHOR AND CHATGPT IN SCIENCE: INSIGHT FROM THE SOCIAL SYSTEM THEORY APPROACH

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The main goal of this text is to investigate the characteristics of the science system in relation to its components (definition of an author and researcher) and its newer parts that arose from functional differentiation (such as ChatGPT). Contemporary debates problematize the importance and ethical considerations of using ChatGPT in science. However, every argument in this matter deals with moral questions that are not important in the face of system theory. What we are investigating is the question of how ChatGPT, in synthesis with an author (researcher), can contribute to the functioning of the very system of science. The system of science functions according to the code of true/not true. The functional differentiation of a researcher as a social role that is integrated into the system will change so it can be adapted to the needs of science, not the needs of a person that enters the systemic world. Therefore, we are investigating the future of the author/researcher within the system of science. What will be their characteristics, and how will these characteristics respond to the environment (psychic systems)?

DOSEŽI UMJETNE INTELIGENCIJE U PROMJENAMA ISTRAŽIVAČKE METODOLOGIJE U TRŽIŠNOM I AKADEMskom SEKTORU

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Umjetna inteligencija ubrzano mijenja sve segmente društvene i individualne svakodnevice, uključujući i područje društvenih istraživanja. Poduzeća za istraživanje tržišta i ispitivanje javnog mnijenja, odjeli za istraživanje tržišta i obradu podataka u velikim poduzećima, kao i znanstvenici u istraživačkim i visokoobrazovnim institucijama, ubrzano se prilagođavaju okruženju u kojem se sve češće koristi umjetna inteligencija. Ključno istraživačko pitanje našeg rada odnosi se na načine na koje umjetna inteligencija mijenja i promijenila je istraživačku metodologiju u području društvenih znanosti. S ciljem odgovora na postavljeno pitanje, proveli smo dvije fokus grupe s pojedincima iz područja istraživanja tržišta, istraživačima iz društvenih znanosti zaposlenima na fakultetima i institutima, te istraživačima koji se bave analizom velikih količina podataka. Rezultati istraživanja ukazuju na to da je umjetna inteligencija djelomično promijenila poslovne prakse u agencijama za istraživanje tržišta i, u nešto manjoj mjeri, područje istraživanja u akademskom sektoru. Svi sudionici se slažu da će umjetna inteligencija uvelike definirati područje metodologije istraživanja u društvenim znanostima u nadolazećim godinama te aktivno prate i testiraju mogućnosti umjetne inteligencije u svojim područjima rada.



ENHANCING URBAN SECURITY: APPLICATION OF YOLOV9 OBJECT DETECTION ALGORITHM FOR WEAPON DETECTION

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The safety of every citizen in urban areas is one of the fundamental necessities for every human being to live without fear for their own lives. Unfortunately, armed attacks are becoming increasingly common, often due to a lack of attention or control. Therefore, it is essential to pay more attention to timely detection of illegal items in places such as personal homes, shopping centers, etc. This research focuses on reducing the number of victims and criminal activities through timely detection of weapons. For this purpose, an advanced object detection algorithm - YOLOv9 - is employed, which achieves outstanding results in recognizing three classes: unarmed persons, armed persons, and weapons themselves, along with their location and direction. YOLOv9 represents the latest iteration in the YOLO series of algorithms, bringing improvements in accuracy and detection speed. With new architectural features such as Programmable Gradient Information and General Efficient Layer Aggregation Networks, YOLOv9 becomes a powerful tool for various applications in computer vision. The results of the YOLOv9 convolutional neural network demonstrate excellent performance for all three classes, with the best class achieving a mean average precision of 0.965 for a person holding a weapon, while the weakest class performed with an average precision of 0.872. Precision and recall for all three classes are above 0.97, indicating high reliability, and inference time is just a few milliseconds with conventional graphics resources. However, like any artificial intelligence algorithm, a limitation of this research is additional resources in the form of images, which could further enrich the results of this study.

ENHANCING MILITARY DECISION-MAKING THROUGH DATASET EXPLORATION

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The primary missions of any nation's Armed Forces encompass safeguarding territorial integrity, participating in regional security mechanisms, and supporting civilian institutions. Commanders within these forces face intricate decision-making processes compounded by the weight of accountability for the outcomes of their decisions. This accountability underscores the commanders' responsibility for any adverse repercussions stemming from their choices. Hence, commanders across tactical, operational, and strategic levels necessitate timely access to dependable, actionable intelligence from the field to inform their decisions effectively. Such intelligence not only facilitates the enhancement of mission outcomes but also ensures the security of friendly and allied forces. Acknowledging the criticality of accurate intelligence, artificial intelligence (AI) technologies are increasingly deployed to meticulously identify military vehicles across various army branches. Consequently, this study proposes an approach focused on data collection tailored for Military Decision-Making processes, aimed at refining the decision-making framework. By leveraging AI capabilities to accurately identify military objects, this approach seeks to bolster the quality and relevance of intelligence available to commanders, thereby optimizing their decision-making prowess. In summary, this study advocates for the integration of advanced technologies, particularly AI, into the data collection phase of Military Decision-Making procedures. By enhancing the accuracy and efficiency of intelligence gathering, this approach strives to empower commanders with the insights needed to navigate the complexities of modern military operations effectively, ultimately bolstering mission success and safeguarding forces' interests. Additionally, the utilization of AI-driven data collection methods holds promise for optimizing resource allocation within the military, further enhancing operational efficiency and effectiveness.



INFORMATION WARFARE AND PROPAGANDA IN RUSSO-UKRAINIAN WAR, LESSONS LEARNED

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The study examines the Russian propaganda's methods and effectiveness during the Russo-Ukrainian war, focusing on three specific cases: the declared number of casualties, denial of the Bucha massacre, and the dirty bomb narrative. The analysis assesses whether emotional manipulation techniques alone were employed or if additional tactics were utilized. It also evaluates the technical quality of each propaganda campaign. Despite the subpar quality of individual campaigns, the research reveals that Russian propaganda accomplishes its objectives by eliciting emotional responses. Particularly, it garners greater support from older, less educated individuals who primarily rely on television programs (largely controlled by the central Kremlin authorities) for information. While propaganda also impacts younger audiences, its influence is comparatively weaker. Ultimately, the study deems Russian propaganda successful due to its ability to generate significant emotional engagement within the domestic public, thus contributing to support for the war.

KONSTRUKCIJA I EVALUACIJA ANKETNE SKALE ZA MJERENJE STAVOVA O STEM-U I STEM ZNANSTVENICIMA

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U sklopu projekta SCOPE udruge FabLab i projektnog konzorcija koji je financiran iz Europskog socijalnog fonda, 2022. provedeno je istraživanje javnog mnijenja s primarnim ciljem prikupljanja relevantnih podataka za zagovaranje potreba i promjena u obrazovnom pristupu STEM (znanost, tehnologija, inženjering i matematika) području te o mišljenju o prikladnoj ulozi civilnog društva u tim naporima. Sekundarni metodološki cilj rezultate kojeg predstavljamo u ovom radu bio je izrada odgovarajućeg anketnog instrumentarija s posebnim naglaskom na instrument za mjerenje stavova (i stereotipa) o STEM-u i STEM znanstvenicima. Na temelju koncepta iz stručne literature, indikatora dobivenih tematskom analizom fokusnih grupa i anketnih pilota, operacionaliziran je originalan anketni instrumentarij, odnosno likertovska skala dijelom komparabilna s velikim međunarodnim anketnim studijama na ovu temu. U proljeće 2022. provedena su online anketiranja četiriju populacija: opća populacija Republike Hrvatske u dobi od 18 do 65 godina (N = 802; panel agencije Ipsos; reprezentativni uzorak s obzirom na spol, dob i regiju); odgojno-obrazovni djelatnici (N = 176; kontakti iz baze projekta i uzorkovanje 'snježne grude'; osnovne i strukovne škole te gimnazije); djelatnici organizacija civilnog društva iz STEM područja (N = 80; prigodni online uzorak) te popularizatori znanosti (N = 32; prigodni online uzorak). Provjera metrijskih karakteristika anketnog instrumenta u fokusu ovog rada uključivala je provjeru dimenzionalnosti skale analizom glavnih komponenata, izračun interne pouzdanosti i valjanosti te provjeru invarijantnosti s obzirom na ciljanoj populaciju (laičku i ekspertne) i sociodemografske poduzorke. Nakon purifikacije početnih 39 anketnih čestica centralnog instrumenta, dobivena je multidimenzionalna skala stava o STEM-u i STEM znanstvenicima zadovoljavajućih metrijskih karakteristika s četiri latentne dimenzije koje tumače preko 50% varijance manifestnih varijabli. Ispitanici su u pravilu pozitivno procjenjivali različite aspekte uloge STEM-a, a otvorenim odgovorima na kraju upitnika izrazito pozitivno procijenili samu anketu. Pročišćeni anketni instrument, eventualno nadopunjen modulima eksplicitno posvećenim umjetnoj inteligenciji i kreativnim industrijama, predlažemo ubuduće koristiti za kontinuirano praćenje općeg javnog i ekspertnog mnijenja, a kako bismo uz podršku civilnog sektora zagovarali politike u vezi STEM-a utemeljene na podacima.

ONLINE SESSIONS

ONLINE SESIJE

SPLETNE SEJE

FREEDOM OR CENSORSHIP: ALGORITHMIC CREATION OF SUB-REALITY

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Instead of the conventional understanding of censorship as the explicit blocking of certain content from one or more centers, contemporary communication theorists refer to the phenomenon as “censorship through noise.” This concept is closely linked to information overload, a crucial determinant of the contemporary information and communication digital ecosystem, from which its control is directly derived. This idea encompasses the inundation of information, often including disinformation or “alternative facts,” supported by logical inconsistencies, entropy, and conflicting information, including contradictory and mutually exclusive data. In other words, the digital footprints we leave in the virtual space colonize us within the confines of the metaverse of personalized content, fundamentally transforming the way information and ideas are received. This blurs the distinction between fact-based reporting and completely fabricated information, consequently leading to a paradigm of suffocating truth in a sea of lies and the emergence of numerous fragmented, decontextualized, and subjective truths that may result in filter clash (clash of diverse algorithmic-driven realities). The paper thus demonstrates how, due to the explosion of communication channels and the volume of available content, universal interconnectedness has resulted in the creation of an illusion of genuine and constant information as a prerequisite for democratic participation, opening space for contemporary multi-dimensional latent forms of censorship. Behind the complex mathematical models of content filtering and personalization lie myths of the independence of algorithms and artificial intelligence, which represent nothing more than traces of analog material, interest-driven, and corporately conditioned circumstances of social reality. The ultimate result of the paper will be contained in mapping the ways in which the digital information ecosystem, through the emergence of what we identify as two-tiered censorship, supports a kind of shift in thinking about social polarization and alienation, as well as the digital divide and the concept of censorship.



ARTIFICIAL INTELLIGENCE AND THE CREATIVE ARTS: SHAPING THE FUTURE OF CREATIVE INDUSTRIES AND SOCIAL CHANGE

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As an important driving force leading the new round of technological revolution and industrial change, artificial intelligence is penetrating and changing people's way of production, living and learning from all levels, and human beings are beginning to seek a new direction in the extension of the spirit and wisdom, and to realise for the technological change and explore more challenging social changes while nurturing creativity, and the conflict between the traditional art and creative industries and the emerging AI boom has always been a focal point of public opinion. This paper focuses on the breakthrough of AI to the traditional discourse of the arts and creative industries, and analyses the issues derived from the disciplines behind the arts and creative industries by reviewing the development situation of AI in recent years as well as the policies formulated by various countries on AI. The aim is to identify the decisive role that AI can play in the creative production process of the arts, to explore a longer term future on how innovation in the creative industries can achieve sustainable development.

EXPLORING INNOVATIVE AI, NLP AND LLM TECHNIQUES FOR ANALYSIS OF ONLINE MEDIA TEXTS DURING THE ELECTION CAMPAIGN

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Artificial Intelligence (AI) and Natural language processing (NLP) play an important role in the analysis of large amounts of online media texts related to election campaigns. They facilitate a deeper understanding of content and trends in election campaigns encompassing diverse methodologies such as keyword extraction, topic modelling, named entity recognition, sentiment analysis, hate speech recognition, disinformation detection, etc. Although traditional NLP methods for analyzing online media texts have been extensively researched, generative AI and large language models (LLMs) enhance these methods and techniques, enabling more detailed insights and comprehensive analyses of media texts. LLMs excel at capturing contextual information and understanding the underlying semantics of text. This enables them to comprehend the subtle nuances, figurative language, and connotations present in media texts, which may be challenging for traditional NLP techniques to capture accurately. Moreover, LLMs can be fine-tuned on domain-specific data to further enhance their performance in analyzing media texts related to election campaigns. Fine-tuning allows the model to adapt its language understanding capabilities to the specific vocabulary, syntax, and discourse patterns prevalent in election-related content, thereby improving the accuracy and relevance of its analyses. This study aims to provide an overview of innovative NLP methods and techniques employed in the analysis of media texts relevant to election campaigns. Specifically, it explores techniques for enhancing LLMs in the task of online media text analysis, ranging from prompt engineering to Retrieval-Augmented Generation (RAG) strategies and fine-tuning approaches. Advanced prompt engineering techniques can guide the model towards generating more accurate and contextually relevant responses. RAG strategies combine the strengths of retrieval-based and generative models, leveraging a pre-existing knowledge base to augment the generation process. By retrieving relevant information from a large repository of data and integrating it into the generation process, RAG enhances the model's coherence, relevance, and factual accuracy. Through fine-tuning, pre-trained models can be adapted to better suit the nuances and intricacies of the target dataset or application domain. Examining the application of advanced AI, NLP and LLM techniques within the context of the parliamentary elections in the Republic of Croatia.



ETHICAL CONSIDERATIONS AND RECOGNITION: UNDERSTANDING ATTITUDES TOWARDS ARTIFICIAL INTELLIGENCE ACROSS DIVERSE DEMOGRAPHICS

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This study investigates how ethical considerations influence attitudes towards AI in marketing and sales. We hypothesize that factors such as interest and understanding of information and communication technologies, perceptions of AI's reliability, as well as knowledge of marketing and programming vary based on ethical stance. Additionally, the study explores the recognition of AI-generated content across different age groups. Participants were tested on their ability to distinguish AI-generated content, alongside demographic and attitudinal factor. Findings show that those who view AI as ethical or mostly ethical tool to use in marketing and sales, demonstrate higher understanding and trust in its capabilities without expressing fear for almost complete automatic replacement of human tasks and intelligence in the near future, unlike some others. Positive perceptions of AI correlated with greater interest in the information and communication sector, and a deeper comprehension of the technology. The other hypothesis suggests that age influences the ability to differentiate photos and texts between original and AI-generated content. Additionally, participants' beliefs regarding IT technology's contribution to other industries, their creativity, English language proficiency, industry of employment, and specific habits were examined. The main research question aimed to unveil how these participant characteristics shape their attitudes towards AI usage and their ability to recognize AI-generated content. Overall, this study sheds light on the complex interplay between ethical beliefs and perceptions of AI, offering insights into how individuals perceive, recognize and interact with AI technology depending on their backgrounds, interests and knowledge.

POTENCIJAL UMJETNE INTELIGENCIJE U STVARANJU DEZINFORMACIJA U KONTEKSTU SIRENJA TEORIJA ZAVJERE

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Dezinformacije su postale ozbiljan problem, a razvojem transformativnih tehnoloških napretka u umjetnoj inteligenciji (AI), jedan od rezultata je sve veća izloženost dezinformacijama (Monteith i dr, 2023). AI sustavi često griješe u rezoniranju i u činjenicama jer se radi o modelima nizova riječi, odnosno kako ljudi koriste jezik, a ne modelima kako svijet funkcionira. Također, može doći do iskrivljenja činjenica poput toga da je "Egipat je transkontinentalna zemlja jer se nalazi i u Africi i u Aziji" ili da "porculan može pomoći u uravnoteženju nutritivnog sadržaja mlijeka, osiguravajući djetetu hranjive tvari koje su mu potrebne za rast i razvoj" (Marcus, 2022). Budući da su sustavi nasumični, vrlo osjetljivi na kontekst i povremeno se ažuriraju, bilo koji eksperiment može dati različite rezultate u različitim prilikama. S obzirom da privatna industrija, a ne akademska znanost upravljaju razvijanjem umjetne inteligencije (McKinsey, 2023) jako je važno da se znanost uključi u razna istraživanja u vezi razvoja AI, a kako živimo u vremenu gdje se fotografije, tekstovi, video materijali mogu mijenjati ili kreirati putem umjetne inteligencije, posebno je potrebno istražiti utjecaj AI na porast širenja teorija zavjera. Dosadašnja istraživanja su pokazala da je lako navesti ChatGPT da stvara dezinformacije u širokom rasponu tema, od medicine, politike i religije (Marcus, 2022). U ovom radu pružit ćemo pregled istraživanja o utjecaju umjetne inteligencije u stvaranju dezinformacija u kontekstu širenja teorija zavjera i pokušati odgovoriti što društvo može učiniti u suzbijanju istog.



CREATIVE INDUSTRIES IN THE PANDEMIC PERIOD: A CASE STUDY OF THE OKSID ASSOCIATION

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The COVID-19 pandemic has intensely shaken all aspects of socio-political systems. Recognized as a higher priority, some of these aspects were under special financial incentives from public sources during the entire period of the global crisis, while the cultural and creative sector was among those with major losses. Rigorous pandemic measures radically limited meetings and gatherings (and therefore cultural and artistic performances), and generating income from cultural and artistic manifestations and programs was made impossible. Moreover, the lack of sensitivity (or financial capabilities) of decision makers for the cultural and creative sector made many cultural workers, artists, organizers, and institutions survive on their own and find their way on the labor market, as well as the market of products and services. The omnipresent uncertainty about the duration of the crisis and the mentioned impossibility to "survive" in the newly created circumstances forced many individuals and organizations to stop their previous activities. On the other hand, many turned to the only possible means of survival – the Internet. Online concerts, exhibitions, theater plays, and various other programs found different, creative ways to reach the target audiences in culture but also art, which was deeply affected by the new situation as well. This paper will offer a case study of a Šibenik-based association to show how everything looked "from below", in practice. Oksid, as an association for the promotion of culture and art, has been active on the local cultural and artistic scene for 9 years, and after the "normal" state was interrupted in March 2020, which came as a shock just a few days before the Association's birthday concert, a plan was soon made to continue the scheduled activities and adapt. Cultural Networking is the name of the project that the Association applied for through the Art and Culture Online funding program from the European Social Fund. Despite the locked doors of its physical premises, the Association thus got the chance to offer at least some cultural and artistic content.

HIGH RISK ARTIFICIAL INTELLIGENCE SYSTEMS AND LEGAL DOCTRINE OF ESSENTIAL FACILITIES: IN SEARCH FOR A DYNAMIC MODEL

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The proposed Regulation of the European Parliament and of the Council on laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts targets high risk artificial intelligence systems as one of its primary areas of regulatory scope. High risk artificial intelligence systems are considered as software that is developed to use machine learning approaches like supervised, unsupervised and reinforcement learning, deep learning; logic and knowledge-based approaches like knowledge representation, inductive (logic) programming, knowledge bases, inference and deductive engines, symbolic reasoning and expert systems and statistical approaches like Bayesian estimation, search and optimization methods. The essential facilities doctrine in Competition Law / Antitrust Law state that owner(s) of an essential facility for effective competition must provide access to that facility to other competitors in relevant market at a reasonable price. This paper correlates high risk artificial intelligence systems in the scope of Artificial Intelligence Act as potential essential facilities under certain conditions. The paper follows with normative analysis of regulatory requirements of the Artificial Intelligence Act for high risk artificial intelligence systems in light of the essential facilities doctrine. In the final part paper detects primary normative content for future development and outlines dynamic regulatory model for high risk artificial intelligence systems.



INFORMIRANOST O KIROPRAKTIČARIMA KAO KOMPLEMENTARNOJ METODI LIJEČENJA U REPUBLICI HRVATSKOJ

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Interes za kiropraktičarskom njegom u Republici Hrvatskoj u stalnom je porastu, unatoč nedostatku zakonske regulative koja bi je postavila u okvir konvencionalne medicinske skrbi. Iako je kiropraktika u svijetu priznata znanstvena metoda te djeluje kao dio javnozdravstvene skrbi u mnogim zemljama, u Hrvatskoj ona nije određena zakonom, čime izaziva skeptičnost potencijalnih pacijenata, s obzirom da ih ne može zaštititi od nesavjesnog liječenja praktičara koji nemaju titulu doktora kiropraktike. Kako bi se potencijalnim i aktivnim korisnicima kiropraktike omogućila informiranost o ovoj metodi liječenja, od izuzetne je važnosti proučiti kanale kojima se pojedinci informiraju o kiropraktici. Ovaj rad istražuje kanale informiranja na temelju kojih se potencijalni pacijenti odlučuju za ovu komplementarnu metodu liječenja. Uzorak od 300 ispitanika koji su korisnici kiropraktičarske njege bit će korišten kako bi se utvrdili ključni čimbenici koji utječu na informiranost i interes za kiropraktiku. Ispitivanje će biti provedeno na prigodnom uzorku pomoću anketnog upitnika, koji će ispitanicima postaviti pitanja o njihovim izvorima informacija o kiropraktici te njihovom stavu prema ovoj terapiji. Istraživanje će biti provedeno u travnju 2024. godine. Cilj istraživanja je utvrditi raznovrsnost u načinima na koje pojedinci dolaze do informacija o ovoj alternativnoj/komplementarnoj metodi. Internetski izvori, preporuke prijatelja i obitelji, kao i znanstveni članci i istraživanja mogu biti samo neki od kanala informiranja koje ispitanici koriste. Analizom rezultata istraživanja moći će se bolje razumjeti preferencije i potrebe pacijenata u vezi s pristupom informacijama o zdravstvenoj njezi. Edukacija i informiranje javnosti ključni su za promicanje sigurne i učinkovite kiropraktičke prakse te osiguranje kvalitetne zdravstvene skrbi za sve koji je koriste. Preporuke prijatelja i obitelji često su od velike važnosti u pitanjima odluke o zdravstvenoj skrbi. Jedno od ključnih pitanja na koje će istraživanje pokušati odgovoriti jest je li korisnicima važnija usmena preporuka ili su im važnije znanstvene činjenice. Osiguranje pouzdanih informacija i educiranje javnosti o prednostima i ograničenjima kiropraktičke njege moći će doprinijeti poboljšanju općeg razumijevanja i prihvaćanja ove metode liječenja u Hrvatskoj. Rezultati istraživanja također mogu poslužiti kao osnova za donošenje informiranih odluka o biranju zdravstvene skrbi. Također, ovi rezultati mogu pomoći u donošenju regulacije kiropraktičke prakse u Hrvatskoj, u skladu s međunarodnim standardima i najboljom praksom.

KORIŠTENJE AI U KREIRANJU PROMOTIVNOG SADRŽAJA PRIREĐIVAČA IGARA NA SREĆU

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AI može doprinijeti marketinškim aktivnostima na različite načine. Jedna od tih je i asistiranje u kreiranju sadržaja za promotivne aktivnosti. Cilj ovog istraživanja je otkriti koriste li priređivači igara na sreću AI u kreiranju svog sadržaja i u kojem postotku. Za istraživanje se koristio AI detektor GPTZero koji je analizirao objave priređivača s njihovih službenih mrežnih stranica od srpnja do studenog 2023. godine.

VPLIV UMETNE INTELIGENCE NA NOTRANJE KOMUNIKACIJSKE PROCESSE V ORGANIZACIJSKIH STRUKTURAH

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Sodobni izzivi, s katerimi se soočajo organizacije v hitro spreminjajočem se poslovnem okolju, nakazujejo potrebo po inovativnih strategijah za izboljšanje notranjih komunikacijskih procesov. Notranja komunikacija, ki predstavlja ključni mehanizem za izmenjavo informacij, oblikovanje organizacijske kulture ter krepitev medsebojnih odnosov, je prepoznana kot bistven dejavnik za učinkovito delovanje organizacijskih struktur. V tem kontekstu pridobivajo na pomembnosti napredna komunikacijska orodja, ki temeljijo na umetni inteligenci (AI). Osnovno raziskovalno vprašanje se osredotoča na identifikacijo pozitivnih in negativnih vplivov, ki jih komunikacijska orodja, podprta z umetno inteligenco, imajo na zaposlene ter njihove notranje, formalne in neformalne komunikacijske procese. Cilj raziskave je identificirati razsežnost uporabe umetne inteligence v notranjih komunikacijskih procesih, preučiti vpliv njene integracije na zaposlene ter razumeti spremembe v dinamiki notranje komunikacije kot posledico uvajanja umetne inteligence v organizacijske strukture. Predpostavljamo, da prevladuje pozitivna naravnost zaposlenih za uporabo umetne inteligence v notranjih komunikacijskih procesih organizacijskih struktur. Nadalje predpostavljamo, da prihaja do sprememb v načinu, kako zaposleni komunicirajo in sodelujejo. To še posebej velja za področje formalne komunikacije, kjer je prisotnost umetne inteligence večja kot pri neformalni komunikaciji. Kot orodje za raziskovanje je izbran spletni anketni vprašalnik, ki je naključnemu vzorcu zaposlenih posredovan preko družbenih omrežij.

OSOBITOSTI FENOMENA KULTURE OTKAZIVANJA U SUVREMENOJ DIGITALNOJ KOMUNIKACIJI

Zvonimir Pavković, Catholic University of Croatia, Croatia

Krešimir Dabo, Institute for Migration and Ethnic Studies, Croatia

Cilj je rada objasniti online kulturu otkazivanja kroz odabrane primjere te prikazati mišljenje ispitanika o tom fenomenu. Rad prikazuje analizu dva odabrana primjera kulture otkazivanja, koji ukazuju na razlike ovog fenomena u Hrvatskoj i svijetu. Rad daje uvid u rezultate istraživanja o prepoznavanju i mišljenju ispitanika o kulturi otkazivanja. Rezultati su ukazali na određene razlike u analiziranim primjerima te utvrdilo kako ispitanici imaju uglavnom negativan stav o kulturi otkazivanja.



UPOTREBA VELIKIH JEZIČNIH MODELA ZA RAZVOJ ASISTENATA KULTURNE INSTITUCIJE IVAN MATETIĆ RONJGOV

Benedikt Perak, Filozofski fakultet, Sveučilište u Rijeci, Hrvatska

U suvremenom dobu, kulturne institucije suočavaju se s izazovom kako očuvati i promovirati svoje bogatstvo materijala u sve digitalnijem okruženju. U ovom radu, istražuje se upotreba naprednih tehnologija, posebno velikih jezičnih modela koje nudi OpenAI, za razvoj digitalnog asistenta namijenjenog kulturnoj instituciji Ivan Matetić Ronjgov. Ova institucija, koja čuva naslijeđe značajnog hrvatskog skladatelja i etnomuzikologa, Ivan Matetić Ronjgov, predstavlja idealan primjer kako se tradicionalna baština može transformirati i učiniti dostupnom u digitalnom formatu.

Projekt se oslanja na bogatu arhivu institucije, koja uključuje originalne dokumente, knjige o baštini Matetića Ronjgova, te digitaliziranu zbirku 'Zaspal Pave', jedan od najznačajnijih etnomuzikoloških radova u Hrvatskoj. Ovi materijali poslužili su kao temelj za treniranje i prilagodbu velikog jezičnog modela, koristeći se pritom tehnikom Retrieval Augmented Generation (RAG). RAG omogućava modelu da, osim generiranja odgovora na temelju unaprijed naučenog znanja, pristupa i specifičnim informacijama iz određenog korpusa podataka, u ovom slučaju arhivskih materijala institucije. Detaljno je opisan postupak prilagodbe sustava, uključujući podešavanje system promptova i korisničkih promptova, kako bi se optimiziralo korisničko iskustvo. Posebna pozornost posvećena je interakciji između korisnika i digitalnog asistenta, s ciljem stvaranja intuitivnog i edukativnog sučelja koje omogućava jednostavan pristup informacijama i materijalima. Također, rad obuhvaća razvoj Flask aplikacije koja služi kao backend za digitalnog asistenta, te sustav za vizualizaciju koji omogućava prikazivanje rezultata na korisniku pristupačan način.

Pored tehničkih detalja implementacije, rad se bavi i širim implikacijama ovakvog pristupa za kulturne institucije. Diskutira se kako digitalni asistenti mogu poslužiti kao sredstvo za povećanje vidljivosti materijala, približavanje baštine široj javnosti, te poticanje interesa i obrazovanja o kulturnom naslijeđu. Kroz primjer kulturne institucije Ivan Matetić Ronjgov, pokazano je kako tehnologija može imati ključnu ulogu u očuvanju i promicanju kulturne baštine u 21. stoljeću. Studija slučaja institucije Ivan Matetić Ronjgov poslužila je kao dokaz koncepta i primjer dobre prakse za druge kulturne institucije koje teže modernizaciji pristupa svojim arhivima i kolekcijama.

CLICKBAIT: ODSOTNOST USTREZNE REGULACIJE ODPIRA VRATA SPORNIM TAKTIKAM V SPLETNIH MEDIJIH

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Prispevek obravnava pojav in pojem clickbait-a v slovenskih medijih in pomanjkanje ustrezne regulacije okoli nje, ki temelji na umanjkanju razumevanja in definicije clickbait-a. Zaradi tega to delo najprej opredeljuje clickbait kot pojem in pojav, ki temelji na sporni taktiki osnovani na Scott-ovi teoriji o »vrzeli v radovednosti«. Na podlagi zgodovinskega izvora in namena clickbait-a pa to delo ugotavlja, da slednji izvira iz polja spletnega oglaševanja (ki temelji na ustvarjanju dobička) in ne novinarstva. Skozi prizmo spornih taktik, izvora in namena delo tako izpostavlja, da je cilj clickbait-a privabiti čim večje število klikov (t.i. »click rate«) na vsebino. Namen le-teh pa ni v podajanju novic, temveč čim večjega zaslužka medija, ki hkrati omogoča obstoj teh spletnih medijev. Tako delo postavi temelje za potrditev teze o tem, da se je sodobno novinarstvo umaknilo potrošniški logiki. V tem aspektu delo predstavlja slovensko prakso samoregulacije prek organov, kot sta Slovensko oglaševalsko razsodišče (SOK) in Slovensko novinarsko častno razsodišče (NČR). Kot bo ta članek dokazal na podlagi dejanskih primerov pa sta se obe entiteti izkazali za dotrajani in neučinkoviti.



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