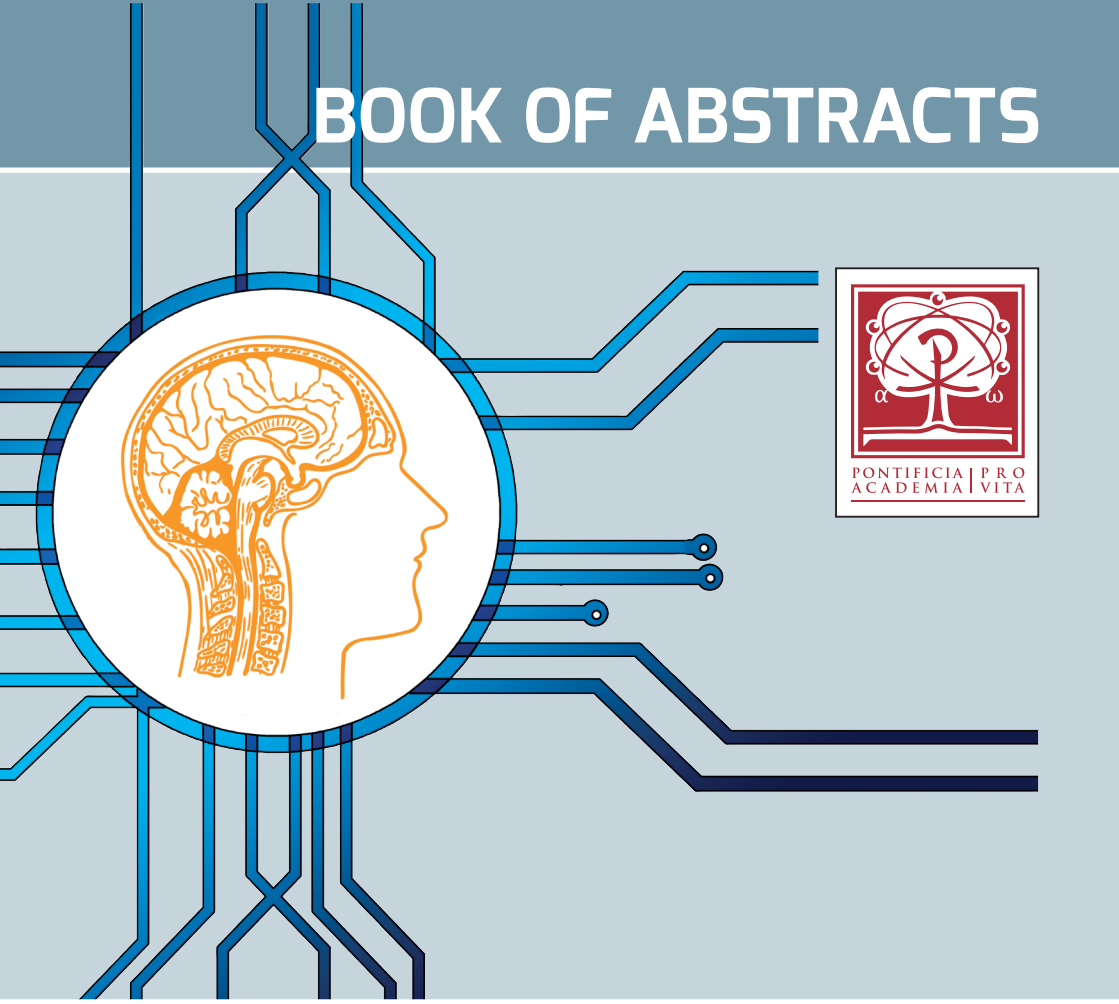
BOOK OF ABSTRACTS



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The "Good" Algorithm?

Artificial Intelligence Ethics, Law, Health.

NEW HALL OF THE SYNOD
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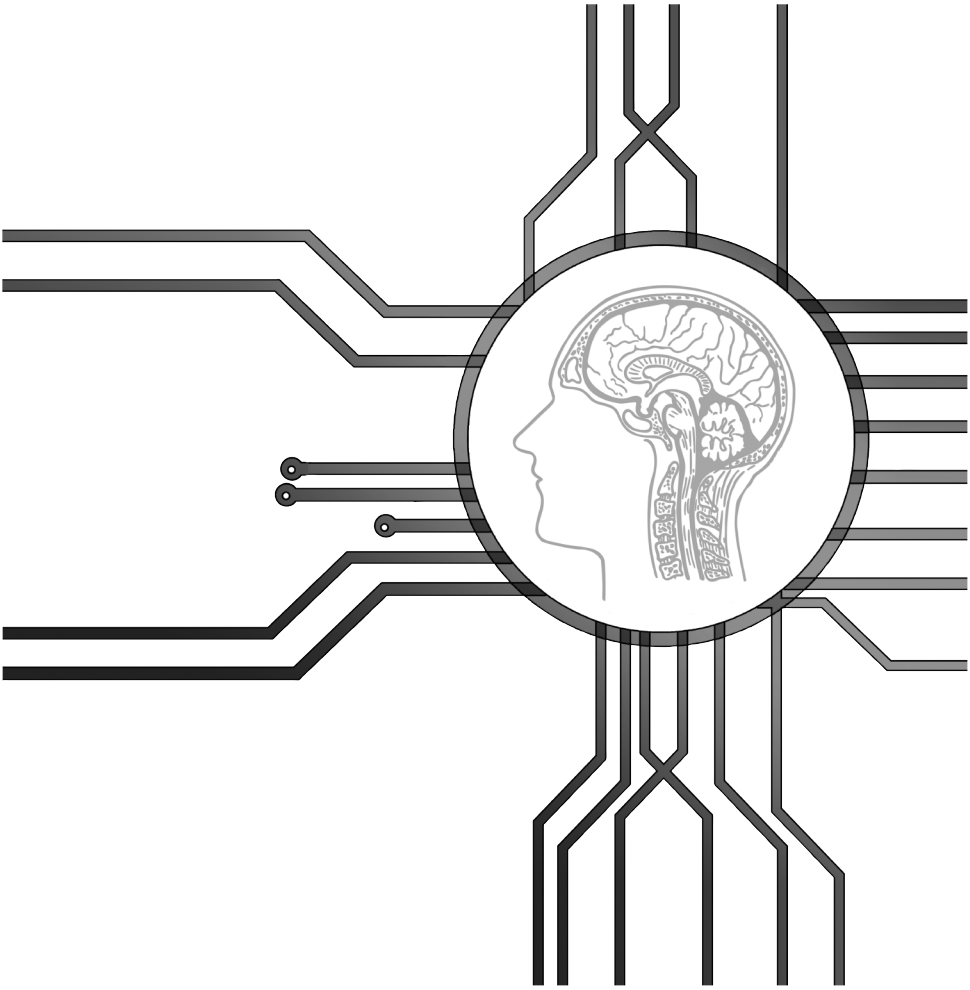
ABSTRACT



Artificial Intelligence as a Divorce between Agency and Intelligence and its Ethical Consequences

Our technologies are perfectly evolved to take advantage of the digital realities within which they operate, like mangroves growing in brackish water. And in the infosphere, new forms of autonomous and adaptive agency (Artificial intelligence, AI) are evolving. In this talk, I shall present the nature and success of AI not in terms of a marriage between some degree of biological intelligence and engineered artefacts but as a divorce between agency, as the ability to perform a task to fulfil a goal successfully, and any intelligence that needs to be exercised in doing so. I shall then discuss and dismiss some sci-fi scenarios that AI will not bring about, and focus on the ethical challenges that are really posed by this divorce, presenting recent work done on how we may deal with them, in terms of an ethical framework for AI and a new marriage, between the green of our societal and ecological problems and the (electric) blue of our digital solutions.

Luciano Floridi

Oxford University (UK)

Theological and Anthropological Questions of Artificial Intelligence

Paolo Benanti

Pontificia Università Gregoriana (Italy)

Among the innovations and transformations that the development of artificial intelligence (AI) is producing, we may recognize the signs of what appears to be the emergence of a new era. The understanding of reality and man entails unprecedented paradigms and processes today. It is as if this "machine" called and challenged us to account for our knowledge. Our contribution intends to highlight the main features of this transformation by pointing out the appearance of some issues that directly challenge the understanding of man and the world. In addition, we shall address some emerging ethical challenges: which ethical guidelines can and must accompany this technological innovation in order to guarantee genuine forms of development? How can a moral-theological reflection accompany this transformation? Apparently, an appropriate reflection should be encouraged in order to include the humanities in the creation of conceptual tools to lead this innovation. To respond to this need we will focus on how the development of a category such as algor-ethics can help shape this process in a cross- and inter-disciplinary way.

Ethical and Social Consequences of Artificial Intelligence. Insights from Christian Social Ethics

Great upheavals in global social change follow in ever closer succession. The consequences of industrialisation and globalisation for society are still causing problems. Digitalisation can be understood as another comprehensive social change that requires ethical assessment and political shaping. Although the Christian Social Doctrine originated in the course of industrialization (Rerum Novarum, 1891) and globalization has long since found a thematic place in the social teachings of the church and in the theological christian social ethics, digitization and at the same time algorithms, data and artificial intelligence pose some problems for us. Technology have so far been dealt with far too little in theological social ethics. It is still unclear what christian social ethics has to contribute to the ethical and political questions of Digitalisation and Artificial Intelligence. The text (and the lecture) aims to contribute to a Christian Social Ethics of Algorithms, Data and Artificial Intelligence that combines the questions of personality, solidarity and subsidiarity with technical ethical considerations. The aim is to anchor the topic of digitisation and artificial intelligence in the tradition of Christian social ethics and to prepare it for further research.

Alexander Filipović

Hochschule für Philosophie
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Flowing of Life and Static of Machine: A Daoist Perspective on Artificial Intelligence

Robin R. Wang

Loyola Marymount University (USA)

This essay will bring ancient Daoist philosophy into a conversation to address the challenges proposed by AI technology from two aspects: a) Life as Qi flow and Beyond: Daoist view on the Nature of Human Being and AI. b) An Ultimate Quest for Genuineness/Trueness: Daoist Ethical Framework for AI Technology. Although Daoist practitioners throughout history are like qi engineers, capable of taking a variety of qi flows into a directed system and configuring the 12 qi flow channels, namely jingluo 经络in the human body, Daoist philosophy maintains that human life is a complex, nonlinear, dynamic, self-organizing system and cannot be simply reduced to information, data and network. Human body contains three interrelated elements: physical form (xing 形), qi (vital energy氣), and spirit (shen 神). At a profound level, the machine cannot flow rather a static thing with a turn-on/off button. The "flow" of Dao, relies on the shen: the spirit. Can we upload shen to a machine? Shen is not an object, a computation, an algorithm, a piece of software, or a program, but rather something embedded in bodily transformations, social interactions and cosmic alignment. Daoist teaching makes a distinction between natural intelligence and artificial stupidity. Daoism warns human beings to avoid the fake intelligence (智 zhi, cleverness) that we are creating. The ultimate pursuit is the search for genuineness, different than satisfying merely desires; to be united with the Dao and be zhenren 真人, perfected and genuine human being.

Educatio vitae: Prioritizing the person in ethics education in the age of Artificial Intelligence

The emerging field of machine ethics is concerned with the implications of creating what are termed autonomous moral agents as well as other forms of what we typically refer to as AI. Just which moral frameworks these artificial agents should utilize consumes part of the current debate. Apart from questions about which frameworks might be most computationally feasible, urgent concerns are arising as to the motivations and purposes to which these agents might be directed. For many ethicists, at least one profound question stands clear: it is not whether such forms of artificial intelligence are technologically possible, but rather it is if their creation is ethically permissible. This talk will consider some of these implications regarding AI and other emerging technologies for ethics education. In light of prescient exhortations concerning human dignity and justice by St. Pope John Paul II, Pope Benedict XVI, and Pope Francis across numerous encyclicals, I will put forward a framework for the teaching of ethics in the age of AI that firmly prioritizes the human person and community – a framework appropriate for multicultural and multi-faith contexts, as it seeks to establish a shared moral vocabulary.

Sandra Alexander

American University in Dubai
(United Arab Emirates)

Artificial Intelligence and Healthcare

Walter Ricciardi

Università Cattolica del
Sacro Cuore (Italy)

AI represents one of the important challenge for the next future in the health care sector. The definition of AI may be summarized as follows: the techniques and methodologies that allow to apply "intelligence" to computers, to ICT systems, to devices and technologies used in the health sector. AI should be considered as a "fragment of computer science" which enables the health stakeholders to better treat patients and to plan, manage and monitor systems at local, national and international level. The AI is composed by a set of tools which need to be personalized to the different characteristics of health systems. The machine learning is currently facilitating the introduction of personalized and precision medicine through the evaluation of images, referrals and clinical data and indicators concerning the personal profiling of patients. This technique improves the treatment of specific clinical conditions through the adoption of "individual" protocols. The recognition of medical terms used in the diagnosis and the connection to clinical coding systems are other AI additional tools which allow to better categorise the disease and provide coherent information to patients facilitating the interaction among health professionals. The introduction of AI robotic applications in medical devices and technologies and in the evaluation of health data are improving the possibility to deliver sophisticated clinical procedures and to respond to several citizens and patients requests reducing the direct involvement of health professionals. But AI determines also relevant implication in the ethical use of personal data and in the transparency of the final results that need to be faced with the aim of achieving a full adoption of AI in the health sector.

The Clinical Consequences of Artificial Intelligence

Clinical service-providing systems will undergo profound changes after implementation of AI technology. This will affect the administration and daily care of patients, and result in significant improvements for both patients and providers. By leveraging the powerful analysis of AI along with its low cost, some work of human professionals can be replaced, enabling high level medical care at reasonable expense. Such substitution may cause some job losses even among doctors with excellent skills that they spent many years obtaining. This kind of unwanted problem, however, is minor and manageable. The essential problem is the change in the doctor-patient relationship, which is the basis for delivering the best clinical care. To clarify the importance of this issue, we have to bear in mind the complexity and huge impact of decision-making in medical care for life-threatening conditions. Therapeutic decisions should be made at each stage of treatment taking many factors into account. Some of these factors are even unavailable and/or unpredictable. Nobody would be happy with a "dictator" making decisions. Instead what is needed is a judge who can make reasonable and ethical decisions while taking many factors into account. The best judge would be a doctor only when he or she is respected. Historically, doctors have had a monopoly on medical skills and knowledge to which patients had no access; this resulted in great respect for doctors. However, this situation will change when patients get an AI software diagnosis and doctors lose their advantage in terms of medical skill over patients. Following the introduction of AI, doctors will need to be more approachable and professional to continue getting respect and trust from patients.

Yuzo Takahashi

Gifu University (Japan)

Artificial Intelligence in Oncology

Alexandru Floares

SAIA Institute OncoPredict Company (Romania)

Globally, more than 8 million people die from cancer every year, but early detect cancers can be cured. However, the existing tests are mainly invasive (surgical procedures) and for later stages or non-invasive but have deceptively low accuracy for early stages. Proper solutions need a new vision based on Data Science (data-driven) and Artificial Intelligence (AI), instead of hypothesis-driven and conventional statistics. Tissue biopsies could be replaced by "liquid biopsies" (e.g., a blood drop), leading to non-invasive tests that are removing the related patients; fear, pain, and risks. From this blood drop, one can perform various molecular determinations, resulting in high-throughput data.

A common mistake is to use biomedical knowledge in data processing or to impose a model. Instead, let the data speak to the AI (not to us!) and only then use knowledge to interpret the AI findings. Using this strategy, one can develop highly accurate predictive models - molecular tests for diagnosis, prognosis, or response to treatment prediction. These tests should satisfy what we called the ART criteria:

1) highly Accurate, with performance
2) Robust, having similar accuracy for different groups of patients
3) Transparent instead of "black box"

For illustrative purposes, we will present our AI-based non-invasive multi-cancer diagnosis and early detection test. To our knowledge, it is the best, working on thirteen cancer types with an accuracy greater than 99%.

Artificial Intelligence in the Road of Health for All. Perils and Hope

Most societies in Latin America and the world made progress towards health systems available for all people. This march towards health as a right for all is confronted by other trends that seem to be fostering inequities and exclusion in most societies. The aim of this presentation is to analyse how automating decisions and processes in health systems may reflect the trends towards exclusion and discrimination, or alternatively, serve as a tool for facilitating and improving access of the vulnerable population both for care and prevention. The advances using artificial intelligence in many aspects of health services are noticeable in processes such as population records and clinical algorithms. At the same time, a growing number of studies report how this potential is also an amplifier of biased policies. The presentation will expand on recent research regarding aspects such as race, gender, age and poverty, frequently embedded in insurance schemes and public programs. The algorithms are a reflection of the objectives of the designers, usually including maximising profits and cutting costs. Pharm companies and other economic factors seek to influence the clinical algorithms in order to expand their markets. Poor and aged population may be inadvertently profiled and excluded from insurance. Many health examples show how our social ethics lag behind the technological revolution. At the same time, the sizable potential of improving population health through better access to evidence, personalised prevention and online services is evident, as long as AI is designed with the right to health in mind. The presentation expands on how equity-by-design tests that are being developed, may safeguard the use of AI in the march towards health for all.

Felix Hector Rigoli

Universidad de São Paulo (Brazil)

Artificial Intelligence in Medicine. Recent Progress in iPS Cell Research and Application

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Kyoto University (Japan)

Nobel Prize for Medicine 2012

Induced pluripotent stem cells (iPSCs) can proliferate almost indefinitely and differentiate into multiple lineages, giving them wide medical application. As a result, they are being used for new cell-based therapies, disease models and drug development around the world. In 2014, the world's first clinical study using autologous iPSCs began for the treatment of age-related macular degeneration. iPSC studies have also made major progress for other disorders, such as Parkinson's disease, giving expectation that iPSC-based regenerative medicine will be widely used in the future. To push these efforts, we are proceeding with an iPSC stock project in which clinical-grade iPSC clones are being established from "super" donors with a homologous HLA haplotype, which is associated with decreased immune response and less risk of transplant rejection. However, because super donors are rare, only a limited number of patients can benefit. In recent years, genome editing technology has made remarkable progress in the medical sciences. We reported a gene-editing strategy that could bring iPSC therapies to a wider range of patients. Furthermore, medical care using artificial intelligence (AI) can contribute to all three steps of the prevention, diagnosis, and treatment of disease. In the US, AI is already being used to predict the risk of heart disease from retinal images and also for drug discovery. The combination of AI and iPSCs will have a significant impact on medical care and society at large. In this session, I will discuss the future of iPSCs in medical care with consideration of state-of-the-art technology including AI from the perspectives of efficacy, safety and ethics.

Policy and Governance of Artifial Intelligence for Health: a Global Ethics Perspective

Artificial Intelligence (AI) is a general-purpose technology, and its potential applications in health care are numerous and diverse. Strategies for the regulation and governance of these diverse applications are only now emerging in health care and public health systems internationally. However, collaboration between health care delivery organizations and technology companies with AI capabilities, and the transfer of data from health care to industry that often accompanies such collaborations continues to occur. In this paper I address the issue of the links between the health care industry and the technology industry, examining emerging approaches to regulating AI for health care in the United States of America and in Canada. I specifically map existing policy frameworks in these two countries in terms of their intended effects on (a) regulating the safety of AI technologies intended for use in health care, (b) governing collaborative processes between health care organizations and technology companies, and (c) providing guidance for the procurement of AI technologies in health care. I conclude by assessing the relevance of domestic health care policies in the context of the global growth of surveillance capitalism, and outline the implications of surveillance capitalism for health care systems internationally from a global ethics perspective.

James A. Shaw

University of Toronto (Canada)

The Secondary Use of Health Data in the New European Legal Framework

Federico de Montalvo

Universidad Pontificia Comillas (Spain)

Big Data offers great opportunities in the field of health research. The interrelation and exploitation of health data, even, correlating them with non-traditional ones, will allow progress in the fight against diseases and in favor of prevention and prediction in terms that are surely not going to find a match in the History of the Medicine and humanity. However, the traditionally settled model, so-called Helsinki paradigm by reference to the Declaration of the same name, signed by the 18th World Medical Assembly in 1964, and the legal regulation of the protection of health data do not appear to be adequate to take advantage of such opportuni- ties that Big Data offers. The balance between risks for individual rights and benefits for common interest seems to have been transformed. This requires us to reflect on whether a new paradigm can be developed that allows us to combine the health benefits of massive data research with the required protection of individual rights. In other words, to choose, within the margins offered by the regulation of data protection, for the most appropriate legal framework, taking into account the developments that, in this regard, offer the EU Regulation and the Spanish specific new regulation of data protection. As we are maintaining in our work, we con- sider that the new concept of pseudonymization has to play a leading role within this new model.

Artificial Intelligence and Education

AI is hailed as one of the most disruptive forces in today's digital landscape. Education is the most powerful agent in the life of individuals, one of the few (if not the only) concrete possibilities to lift people out of a low-income status. Their combination – which is impactful and challenging at the same time – can be examined from multiple angles. (1) AI for Education. Universal access to education has already been democratized through e-learning. AI provides a further push: personalized e-learning discovers what type of educational approach is most effective for different students and presents learning materials in the form that best meets each student's needs, skills, and interests. (2) Education for AI. Whilst the demand for AI experts has grown exponentially, tech giants often recruit researchers from academia by offering them very attractive salaries and working conditions. As a result, few private companies, based in the US and China, act as magnets for talented researchers, thus creating a worrying imbalance in the knowledge and control of this transformative discipline. (3) Education to AI. Recent political developments showed how modern AI algorithms, fed with personal data acquired in an opaque manner, could be used to heavily influence the public sentiment. The talk will highlight that the serious implications for democracy call for educating the general public about what AI is, what its uses and misuses might generate, and what are the citizens' rights and duties in this respect.

Francesco Profumo

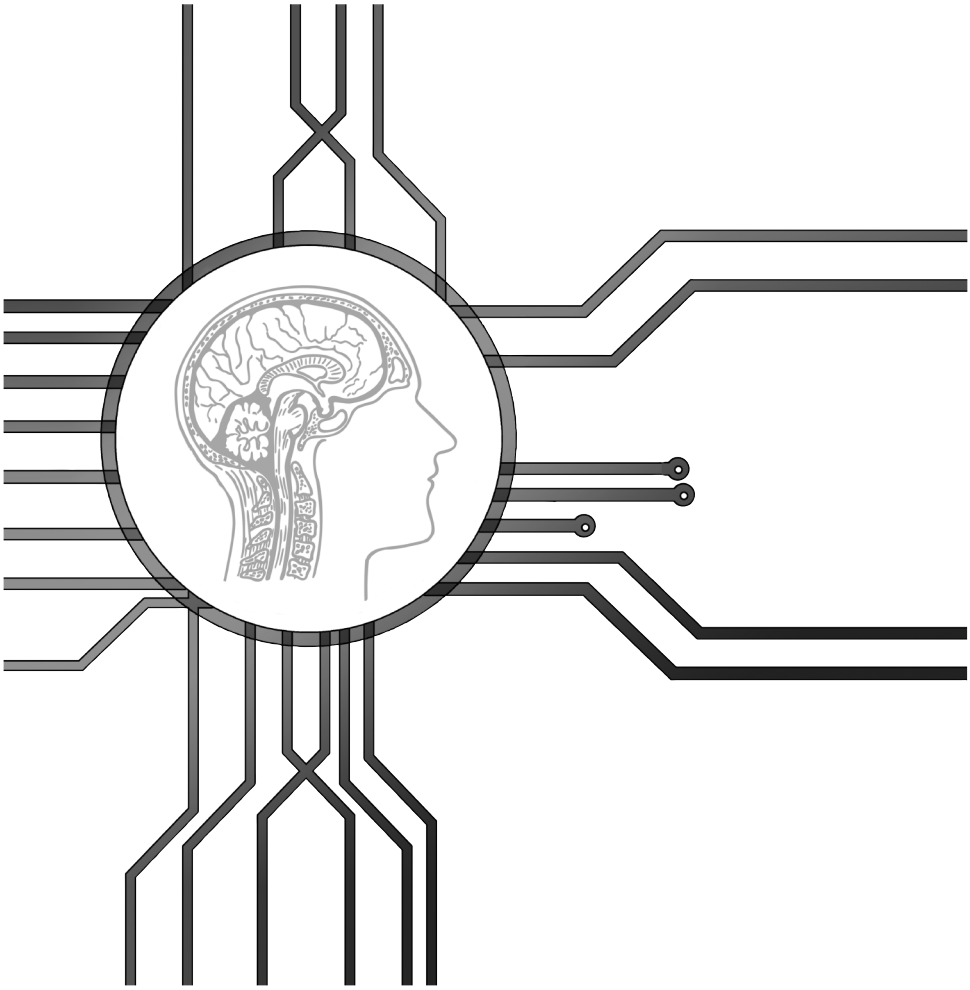
Politecnico di Torino (Italy)

UNESCO's Perspective on Artificial Intelligence

Mr. Cédric Wachholz (UNESCO)
On behalf of Moez Chakchouk

Artificial Intelligence is a multidimensional revolution, impacting all of UNESCO's fields of competences. Massive transformations are taking place in education, sciences, culture and communication and information. AI can be a game changer in delivering on and measuring progress towards the Sustainable Development Goals. In particular, UNESCO recognises the potential of AI to achieve its Global Priorities Gender Equality and Africa. Simultaneously, we recognise that these opportunities carry within them challenges. Our publication Steering AI and Advanced ICTs for Knowledge Societies identified the risks that AI poses to societies today through the lens of the Internet Universality Principles, advocating for a human rights-based, open, accessible, and multistakeholder approach to AI. Without careful management, AI applications may violate rights to freedom of expression and privacy; create opacity in decision-making; widen the digital and knowledge divides; and exclude certain individuals. They may also facilitate the creation and dissemination of malicious content such as disinformation and hate speech. To grapple with these challenges, UNESCO advocates for human-centred AI, and is working on the ethics of AI and capacity development in this field. Following the decision of UNESCO's 40th General Conference, we have embarked on a two-year process to elaborate a standard-setting recommendation on the ethics of AI. At the same time, to help us target our capacity development efforts in developing countries, we are launching a needs assessment survey for African Member States and are preparing training programmes on AI. We are also working on providing policy guidance, especially on open data and data governance. While we are developing the first global, UN AI ethics standard-setting instrument on the ethics of AI, our focus is to bridge digital and knowledge divides of the global North and South in the field of emerging technologies, which will shape our future. Human-centred AI must be harnessed for sustainable development.

POSTERS



Validation of Artificial Intelligence in Medical Diagnosis , utilizing models traditionally used in the Financial Industry

Adrian Attard Trevisan
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Artificial intelligence (AI) and machine learning (ML) have promising prospects in the healthcare sector where it is projected to take up some of health workers' responsibilities and optimize work processes. As of now, AI and ML have found their use in anomaly detection, predictive modeling, and scoring systems. Some of the algorithms that are only emerging in the healthcare sector are already widely used in finance. The question arises as to how compatible these algorithms with the current needs of the healthcare system and what possible problems may occur when validating them. Scoring systems in medicine give rise to a reasonable doubt concerning their ethicism and precision. The validation of predictive modeling and anomaly detection largely used in finance may be challenged in the light of new scientific findings that require ongoing readjustment. Lastly, the healthcare sector suffers from the lack of cohesive shared databases, which would slow down validation and implementation of the new algorithms.

General Views of Bioethicists in Bulgaria about Artificial Intelligence in Medicine

Silviya Aleksandrova-Yankulovska
Medical University-Pleven (Bulgary)

This work aims at presenting some aspects of the views of members of Bulgarian Association for Bioethics and Clinical Ethics (BABCE) on AI in medicine. A long-term goal is to continue discussion within BABCE in view of studying further public attitude towards AI and to stimulate debate at a national level. Methodology. Focus group among members of BABCE. Questionnaire of 14 questions and qualitative analysis were applied. Results: All participants in the discussion considered themselves familiar with AI and make a distinction with robotics. The difference with the robotics does matter in the ethical debate. However, most of the participants consider that the national debate on the application of AI and robotics in medicine is insufficient. Suitable areas for application of AI included: personalized medicine, gene sequencing, imaging, disaster medicine, intensive care, diagnostics, out-patient care assistance, space medicine. Some of the foreseen ethical problems were: issues of control over the technology, confidentiality of patient's data, conflicts with patient's autonomy, trust, resource allocation issues, dehumanization, responsibility issues. Terminal care, pediatrics and psychiatry were pointed as areas where AI shall not be applied. There was a shared opinion that the application of AI in medicine must be controlled by the professional organizations, interdisciplinary ethics committees, patients' organizations, the public. Conclusion: Development of medicine challenges health professionals, patients as well as bioethicists to develop together a framework for effective and safe application of the technology in line with the public values. In some countries, like Bulgaria, technologies come a little bit later than in Western Europe that shall be seen as an advantage for the ethical debate and public preparedness for welcoming or rejecting the new technology. BABCE members: Antonia Grigorova, Makreta Draganova, Atanas Anov, Martin Mirchev, Anelia Koteva, Maria Radeva, Viktoria Atanasova, Lubev Veskov, Nikolai Yordanov, Albena Kerekovska, Desislava Bakova, Neviana Feschieva.

"If they asked you to jump off a cliff?": AI and clinical decision-making

Helen Smith
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Technologists have developed artificially intelligent (AI) powered systems to aid clinical decision-making; some have been deployed into healthcare. It is not always known how those systems make their decisions (known as the black box problem). My Ph.D. research has analysed the legal basis of this scenario as it relates to the clinician and the technologist; I am currently testing how the outcomes of my legal analysis can be challenged ethically. An AI being a black box is problematic due to the professional requirement for a clinician to be accountable for the patient's care (1, 2, 3). If the clinician cannot explain their decision making their practice is not adequately accountable. There is evidence that technologists are using this to their advantage by deploying a system whilst stating that their system "does not make decisions on what a doctor should do" (4). My legal analysis showed that novus actus interveniens is a problem: the clinician performs a new intervening act if they choose to use the system's outputs for a patient. If a technologist's system's output is harmful, the clinician's action of using that output could be found as the cause of that harm, thus the technologist is deemed not liable and the clinician could be pursued for a negligence claim. Through deployment of black box systems, technologists may influence the decision making of clinicians, but without thorough prior consideration, we are allowing technologists to intimately interfere with the clinical decision-making process without ensuring that they have the opportunity to take responsibility for their contribution. Ethically, I am concerned for the clinical professionals potentially holding singular responsibility for the consequences of black box system use; I am currently considering how the technologist could share legal and ethical responsibility if their system has influenced the clinician and therefore contributed to harms caused. References 1. GENERAL MEDICAL COUNCIL. 2013. Good medical practice [Online]. General Medical Council. Available: https://www.gmc-uk.org/-/media/documents/good-medical-practice---english-1215_pdf-51527435.pdf 2. HEALTH & CARE PROFESSIONS COUNCIL. 2016. Standards of Conduct, Performance and Ethics [Online]. Available: https://www.hcpc-uk.org/publications/standards/index.asp?id=38 3. NURSING AND MIDWIFERY COUNCIL. 2018. The Code for Nurses and Midwives [Online]. London: Nursing and Midwifery Council. Available: https://www.nmc.org.uk/standards/code/read-the-code-online/ 4. HENGSTLER, M., ENKEL, E. & DUELLI, S. 2016. Applied artificial intelligence and trust—The case of autonomous vehicles and medical assistance devices. Technological Forecasting & Social Change, 105, 105-120.

Artificial Intelligence, Offender Rehabilitation & Restorative Justice

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The application of a penal punishment as a reaction to crime is grounded on the anthropological view of the human being as a moral agent capable of choice and, thereby, a subject responsible for his actions. However, a conflicting, deterministic anthropological view can be found at the base of the 'dominant rehabilitation model in the correctional domain, the Risk-Need-Responsivity Model' (RNR), which 'sees the offender as a bearer of risks and as a passive object of the intervention, just as the machine to be repaired is viewed by the engineer' (Walgrave, Ward & Zinsstag, 2019:3). Under the rationales of the RNR model, risk assessment tools are amongst the most common applications of Artificial Intelligence technology to criminal justice according to the 2018 Global Meeting on the Opportunities and Risks of AI and Robotics for Law Enforcement. These risk assessment tools, currently already heavily used in western correctional and probation services, calculate, based on the detection and weighing of static (e.g. criminal history) and dynamic risk factors, the individual's recidivism risk or probability, for crime in general and/or for specific types of crime, such as, for example, sexual crime. In turn, this risk evaluation is used for purposes of tailoring the 'treatment' necessary to modify dynamic risk factors presented by the individual, or answer the individual's criminogenic needs, in prison or in probation, influence parole decision-making and monitoring the individual after re-entry into the community. We propose to conclude our poster with the presentation of the alternative Good Lives Model, a rehabilitation model that does not preclude risk management but places a crucial emphasis on human agency. We explore how the GLM can contribute to a more restorative criminal justice, as defended by His Holiness Pope Francis at the 2019 World Congress of the International Association of Penal Law.

Ontological Plasticity and the Challenge to Anthropocentrism: Invoking Ethical Parity in Material Relations

Denis Larrivee
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University of Navarra Medical School (Spain)

Tacitly acknowledged in neuroscientific and technological research is an ethical imperative prioritizing value in the human being for whom the understanding or advance is intended to benefit. Termed anthropocentrism, such prioritization places human beings at the apex of organismal life and grounds ethical, bioethical, and neuroethical praxis, thereby promoting human flourishing while simultaneously restricting harmful intervention in the human being. Anthropocentrism, however, has been challenged a) ethically, for its perceived placement of value in the human being alone and b) philosophically, in certain metaphysical approaches on the nature of being, philosophy of science accounts that predicate human properties in networks of entities rather than in human entities alone, and mechanist conceptions of human nature. Together, these challenges replace anthropocentrism with a value architecture that is more inclusive and technocratic, neither delimited nor determined by property attribution. The trend toward horizontality undertaken in ethical parity models, however, poses a multidimensional challenge to an ethics prioritizing the human being, a challenge mediated at the level of the ethical subject, i.e., in the siting of value contingency, in its theory of ethics, i.e., in how ethics is normatively anchored, and in ethical praxis. In consequence, it modifies ethical mediation as an intentionalized moral enactment, which is framed by a referential ontology. Conversely, philosophy of science inferences drawn from neuroscience suggest that ontological qualifications are fundamental properties of living systems, distinguishing them from technical devices and artificial biological systems. These latter findings thus offer ground for anthropocentric models, situating them in 'meta' physical principles governing the assembly of neural organization. This poster will review the multidimensional changes entailed in ethical parity models and contrast these with a modified anthropocentric model of ethical stewardship, which is premised on meta principles governing the emergence of ontological hierarchy.

Human-Centric Algorithms in Healthcare 4.0: The Agenda of Campus Bio-Medico for a Good Polyclinic

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Healthcare 4.0 would bring the following improvements: strengthen prevention processes, improve health systems' sustainability, make better care services for chronic patients and aged patients. One of the main issues is that there can be no sustainability without solidarity in the care processes at every level and across levels. Technology can help, but we need a human-centric approach in which human being is at the centre of progress that is, investing on the awareness of all the players in the care processes of the entwined but integrated dynamics that hold the integral development of any living system and its development (personal, functional and cultural). Therefore, it is necessary to develop new technologies able to involve the patient actively in the clinical process in a different way. Developing human-centric algorithms moreover means that the AI system has to be equally user-friendly for the stakeholders, safe on privacy, transparent and connected with the healthcare system. The case study, we have considered, is Campus Bio-Medico University, that works with an ecosystem of research units, focused on the integration of Artificial Intelligence in the biomedical context. The CESA (Center of Healthcare of the Elderly), the University Hospital and the future Dea are great examples of the application of the human-centric paradigm. References: Pierangelo Afferni, Mario Merone, Paolo Soda «Hospital 4.0 and its innovation in methodologies and technologies,» 2018 IEEE 31st International Symposium on Computer-Based Medical Systems. Bertolaso M, Rocchi M, (in press) Specifically Human: Human Work and Care in the Age of Machines, in Special Issue: The Meaning of Work in the Fourth Industrial Revolution, Business Ethics: A European Review (Juan Fontradona, Ed.), ISSN: 0962-8770 The High-Level Expert Group on Artificial Intelligence, «Ethics Guidelines for Trustworthy AI,» European Commission, 2019.

Fit for Purpose? The GDPR and the European Governance of Health-Related AI Technologies

Luca Marelli, Marie Skłodowska-Curie Fellow, Centre for Sociological Research, KU Leuven (Belgium)

In spite of their promise for research and care, the rise of artificial intelligence (AI) technologies and advanced big data analytics within the health domain is fraught with significant ethical, societal, and legal concerns. Prominent among these are challenges related to large-scale processing of (sensitive) personal data, which call for the establishment of ethically sound and socially robust data governance mechanisms. In the European Union, the introduction of the General Data Protection Regulation (GDPR) in 2018 served as the cornerstone of its newly unfolding data governance regime. Informed by principles and values such as privacy, accountability, transparency, and fairness, the GDPR is premised on the objective to effectively balance the protection of European citizens and the promotion of a thriving European Digital Single Market and data economy. Still, shortcomings of this regulatory effort have been noted by recent ethical, socio-political, legal, and policy scholarship. Focusing on the deployment of health-related AI technologies and big data practices with the European digital health ecosystem, this poster charts the main lines of tension emerging between the current GDPR-based data governance regime and the broader societal shifts coming along with the expansion of AI in health research and care. Central aspects of the GDPR – i.e. key underlying data protection principles and regulatory categories, the reliance on the "notice-and-consent" model, the (narrow) remit of the Regulation vis-à-vis harms and discriminatory practices related to personal data processing – are misaligned with the surge in big data practices and AI technologies. This throws into doubt whether the Regulation is fully fit for the purpose of governing current developments in this field. Failing to address these criticalities with adequate policy responses poses obstacles to reaping the societal benefits of AI-based innovation, and it diminishes safeguards for the individual citizens of European nations and the European community at large.

ARTificial Intelligence

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Software engineers are coming up with new and gradually more sophisticated programs to generate art, be it musical or visual. AIVA is an AI-composer that produces music for movies, games and even its own record, which was released in 2017. GAN is another AI that can produce visual artworks based on art-historical currents such as impressionism or expressionism. Even more sophisticated is CAN, which can not only recognize different art styles but based on a database, can generate new styles and forms of art. Anticipating a more mainstream approach to art generating AI gives rise to a multitude of philosophical questions: How will such art affect our understanding of art as a category? How will it change the artistic landscape in terms of exhibitions, collaborations and such? The topic of this examination is concerned with possible philosophical implications of art-generating artificial intelligence, illustrated in two examples.

Ethical Problems of Using Artifical Intelligence in Medicine

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AI systems are in demand by doctors when solving various tasks: assessing the probability of complications of diseases; collecting patient data; helping to make diagnoses and prescribe treatment; analyzing data of seriously ill patients in real time. Medical care through AI systems is more focused on disease prevention, contributing to improved public health. Despite the advantages of using AI in medicine, there are negative consequences for patients and doctors. Thus, the use of these technologies for the sake of effective treatment leads to the problem of violating the right of patients to privacy and maintaining the confidentiality of personal data, to the disclosure of medical secrets, which threatens the loss of privacy. Data from the e-card used for artificial intelligence training may be available to the insurance company, which will increase the price of the medical policy and life insurance if the patient does not lead a "healthy" lifestyle and does not follow all the doctor's recommendations for treatment. The employer may refuse to employ an applicant if it has information about the presence of chronic diseases and / or genetic predisposition to certain types of diseases. There is a real threat of discrimination against people based on physical and genetic characteristics. Questions also arise: who is the true owner of medical data, and who can manage it to what extent-the patient, doctor, clinic, insurance company, employer, or computing service? It should be noted that a doctor cannot rely on" smart algorithms " completely. Cognitive systems have problems with the quality and volume of medical information. When using the algorithm in medicine, there is a probability of a diagnostic error that can occur at the first two stages of detection and perception of symptoms: recognition of the leading manifestations and identification of the decisive signs of the disease.

Recent Results and Activities in Trustworthy Artificial Intelligence

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The growing number of successful AI applications raises several new issues, notably the need to increase the degree of trust in AI technologies. According to the Guidelines presented by the High-Level Expert Group on Artificial Intelligence, trustworthy AI should be: (1) lawful, i.e. compliant with all applicable laws and regulations; (2) ethical, i.e. not violating ethical principles and values; (3) robust, from both a technical and social perspective. Ethics come into play in many AI applications. For instance, the problem of evaluating the ethical behaviour of AI-based chatbots in customer service has been addressed by Dyoub et al., 2019a. Here, the proposed approach combines two logic-based AI techniques, Answer Set Programming (ASP) and Inductive Logic Programming (ILP), for defining the detailed ethical rules that cover real-world situations from interactions with customers over time. ASP is appropriate for representing and reasoning with ethical rules because it can deal with norms and exceptions, whereas ILP can automatically generate those ethical rules that are difficult to encode manually. Diversity, non-discrimination and fairness are also among the requirements covered in HLEGAI, 2019. Algorithmic biases must be avoided, as they could have multiple negative implications, from the marginalization of vulnerable groups, to the exacerbation of prejudice and discrimination, e.g based on gender or race. Fostering diversity, AI systems should be accessible to all, regardless of any disability, and involve relevant stakeholders throughout their entire life circle. With reference to gender, a number of initiatives have been recently undertaken, among which the ACM WomENcourage 2019 workshop "Gendering ICT" (http://www.di.uniba.it/~lisi/genderingICT/) addressed the twofold problem of including the gender dimension in computer science/engineering and increasing the presence of women in the field. The workshop also stressed the importance of paying more attention to how data are collected, processed and organized in machine learning applications.

Components of the Digital Technological Revolution: Algorithm, Artificial Intelligence and Digital Communication, and its Impact between Young Mexicans

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In our proposal we want to present some ideas that support the relevance of what we call the "Components of the Digital Technological Revolution", which are three: algorithms, artificial intelligence and digital communication. Thanks to the growing dominance of digital technology, these elements operate closely together and have converted the organizations that efficiently manage them in social entities with an enormous potential, which forces us to reflect whether the Digital Technological Revolution is accompanied by an ethical sense for those who operate it and use it.

We understand that although these three elements maintain a continuous interaction, it is that of communication the one that has special importance because thanks to it the contents of the other two can reach human beings and be used. Communicating is not a mere act of transmitting the results produced by the algorithm or the "decisions made" by artificial intelligence, on the contrary, it is an act of generosity that involves sharing with others in order to achieve the common good.

In this exercise, we wish to show the contributions and impact of the Components of the Digital Technological Revolution in the day-to-day life of Mexican society through its use in digital communication, especially in social networks to subsequently carry out an assessment of their employment in which we establish whether ethics guides the use of this technology among young Mexicans.

The Dark Side of Consumer-Smart Object Relationship: a Non-User Perspective

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Smart Objects, such as Fitbit devices or Amazon Echo, promise to become an essential presence in consumer life and routines. Due to their capabilities, such as the ability to talk, to "understand" the consumer through data and to customise their services, these devices can be recognised as a social entity and also play different kinds of social roles. However, the diffusion of Smart Object is not meeting the expectation. The resistance to technologies, indeed, is not a novel phenomenon: many frameworks in the literature examine the barriers that a consumer can have toward technological devices, even in the smart technology domain. However, these models, since they do not consider the possibility that the Smart Object can interpret a social role, may be inadequate to understand the resistance toward these devices fully. Pivoting on Smart Object social roles, instead, the relational approach, already used in the marketing literature, can be an appropriate tool to understand the non-user resistance toward these innovative devices with anthropomorphic features. Using ZMET interviews involving non-users, four types of fear emerged, each one connected with a social role played by the Smart Object: Fear of Being Controlled (the Smart Object as a Stalker); Fear of Being Dominated (the Smart Object as a Captor); Fear of Being Subordinated (the Smart Object as a Master); Fear of Losing Self-Control (the Smart Object as a Seducer). On the one hand, this work offers interesting insights about a new and unexplored barrier that has to be further examined: the relational barrier. On the other hand, applying the relational approach toward non-users, new kinds of social roles of the Smart Object, uncovered by the previous literature, emerged.

Sociological View of Medicine of the Future

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The emergence and expansion of Internet space, the existence of virtual reality, the development of artificial intelligence, robotic medicine, the use of neural networks, Big Data arrays in health care - poses a number of challenges to modern society and medicine of the future, giving, on the one hand, very large - unprecedented before - opportunities for the development and introduction of new technologies into medicine (As well as for their scientific and practical study), and on the other hand, actualizes the need for self-determination in the new reality of members of society. The introduction of new technological solutions into the practice of health care defines new requirements to the level of professional training of medical specialists. At the same time, trends in medical education are determined by the processes of digitalization of the industry and the global challenges of mankind. In turn, the expected consequence of digitalization of medical education and health care will be the transformation of the social role of the doctor in the short term. According to the results of the research carried out by the Institute of Social Sciences of Sechenovsky University "Medicine of the Future in the Representations of Medical Specialists of the Senior Level" (essay analysis, n = 204, 2018-2009, Moscow), medical specialists of the senior level highlight a number of trends in the development of medicine of the future, among which: - Wide introduction of new technologies into the practice of medical activity (artificial intelligence, robotics, genomic interventions, distribution of bio- and neuroimplants, medical gadgets, etc.); - Acquisition of new knowledge to ensure the recovery of most known diseases, increase of life expectancy (up to immortality); Changing the role of the doctor (displacing traditional specialties and levelling the value of the doctor 's knowledge, reviewing the list of doctor 's competences necessary for work); - Changing the patient 's "consciousness" - and, above all, involvement in a healthy lifestyle, acceptance of cyberorgization processes as a norm, spread of transhumanism. Thus, it is obvious that the medicine of the future should integrate the social phenomena of digitalization and Informatization of society that already exist in the present and become a technologizedand digital area of population health management.

AI: Four Questions for the Great Challenge of the 21st Century

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Understanding how the human mind works is one of the frontiers of present-day science. This interest led last century to the emergence of Artificial Intelligence, whose objective is to understand the high-level cognitive processes that characterize us as human beings as well as their implementation in computational systems. The advances already made are so important and extend transversally in such a large number of other disciplines that it is necessary to analyze what the implications of this overwhelming intrusion of which we are only partly aware are. Beyond scientific-technical approaches, AI interrogates us with four questions that force us to rethink the plausible scenario of the advances in this area and their influence on man and society: - Can a machine think? This raises the epistemological question: What is consciousness? Can a machine really think or only partially imitate a human-like way of responding and acting? - Is a thinking machine human? The underlying anthropological question is: What are the attributes of the person that are unique and specific? What would the relationship with people and their integration into society be like if a machine develops self-consciousness? - Can a thinking machine be bad/good? This leads us to the ethical question: Can moral/ethical answers be expected in the actions of an AI? And in human actions in front of machines? What is the impact of AI on man/society? - Do we want a machine like that? We face the question of meaning: Is this search the fruit of the desire to contribute to the common good? Does it respond to the individual's interest in demonstrating technical superiority? These questions need to be addressed in a transdisciplinary way and from a deep knowledge in different research fields. To this end, we propose the elaboration of a "Cyberanthropology Dictionary (or Lexicon)" to unify language and terms, laying the foundations for dialogue between different disciplines.

A Taxonomy of Artificial Intelligence Opacity

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An ethical concern that is often raised with artificial intelligence is the opaqueness of its inner workings. This point is particularly relevant for systems incorporating machine learning in which the machine 'learns' on its own how to best solve a given task and encodes the knowledge necessary to solve that task in the system. The learned knowledge representation is usually not in a form understandable by humans and the 'decisions' of the system are hard to comprehend. For that reason, AI systems, especially when machine learning is used, are often considered to be black boxes. However, researchers demonstrated that for certain types of applications part of the AI system's learned decision logic can be understood. This indicates that the inner workings of an AI system might not be as opaque as they seem and, further, that a system's degree of opacity depends on how one defines opacity. Therefore, we analysed different mechanisms that contribute to the notion of opacity. We distinguish three types of opacity: i) lack of disclosure, ii) epistemic opacity, and iii) explanatory opacity. We show that opacity can be the result of both technical and human factors. Such a framework can inform the discussion on opacity and help to determine strategies on how to reduce it.

Artificial Intelligence and Sensitive Thought

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In today's landscape, we are witnessing a technological development incomparable to any artifice created in the past by man, so much so that we can talk about a new and further global revolution. This revolution finds its theoretical foundation, in addition to the advancements of mathematical, physical and natural sciences, on computer science and, in particular, on the logical-mathematical notion of algorithm and calculability developed particularly by Turing and in parallel by Church. Despite the theoretical limits of calculability, strictly connected with Gödel's undecidability theorems, the paradigm underlying this scientific approach has been oriented towards the achievement of tasks typically considered pertinent to the human being, initiating a new science, which finds application in almost all areas of human knowledge, precisely Artificial Intelligence.
We will try to show how Artificial Intelligence, founded on calculability, can be conceived as a sort of extension of a well-determined form of human thought, that defined by Heidegger as "calculating thought", whose roots have been recognized by some in rationality of clear and distinct ideas, which have played a decisive role in the methodological framework of modern sciences and beyond. Although this perspective appeared as dominant in the nineteenth and first half of the twentieth century and continues to deeply connote the socio-political characteristics of western societies, in its economic-financial and techno-bureaucratic apparatuses, a different thought emerges from different perspectives and beyond the calculation. It is a rationality that is no longer aseptic and cold, but sensitive, at the height of human experience, made up of sufferings and joys, of anxieties and hopes, of a search for meaning, love and justice. Finally, we believe that it is possible to find the traces of such a "sensitive thought" within the Jewish-Christian revelation, where human intelligence carries the signs of the divine Logos.

CA17124 DigForASP: A European cooperative action for AI Applications in Police and Digital Investigations

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In the frame of Police Investigations, in particular to Digital Investigations and Digital Forensics cases, data collection on "crime scene" needs further elaboration for the contextualization in the real case. The "Evidence Analysis" phase has the aim to provide objective data and suitable elaboration of these data can help the Investigators in the formulation of possible investigative hypotheses, which could later be presented as proofs of evidence in courts. Investigations with a high amount of heterogeneous data represent a huge problem for the human mind in the search for events, connections, facts or demonstrate alternative solutions. However, many investigative problems can be formalized and expressed with a mathematical approach and solved with reasonable efficiency using Artificial Intelligence and Automatic Reasoning. COST Action CA17124, called DigForASP ("DIGITAL FORensics: analysis tests through intelligent systems and practices"), financed by the European Union with the funds for "European cooperation in science and technology, Horizon 2020", was born for the exploration, study the delicate issue of the application of Artificial Intelligence and Automated Reasoning to the investigative world, through the creation of a multidisciplinary scientific network. DigForASP, with activities in the period September 2018 - September 2022, has aims to help the human operator (Law Enforcement, Lawyers, Public Prosecutors, Judges, social scientists, criminologists) in the analysis of investigative data as well as the formulation of hypotheses for the resolution of complex cases, through Artificial Intelligence techniques available to guarantee ethic, reliability and verifiability.

Artificial Intelligence & Pluralistic Global Bioethics: Thomistic-Aristotelian Personalist Refinement of the United Nations' Social Contract View of Rights-duties in AI-genetic Engineered Nanotechnology

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Introduction: Artificial intelligence (AI)-guided genetic engineered nanotechnology and robotics (AI-GNR) is widely recognized as the technological revolution posing the greatest transformative potential to humanity; it has already demonstrated its technical capacity to permanently alter the biology and physics governing the global human family. Yet there are no substantive and pluralistic ethical or legal analyses for AI-GNR—despite its real and imminent apocalyptic potential. This analysis therefore seeks to provide the first substantive and comprehensive global bioethical, legal, and health analysis of AI-GNR by providing the first known defense of the world's only global bioethics utilized by every nation on our planet. Methods/Results: This study historically and philosophically defines the Thomistic-Aristotelian personalist foundation of the rights and duties-based social contract framework of the United Nations (UN) as articulated in the 1948 Universal Declaration of Human Rights (UDHR) which formed the basis of all subsequent UN instruments (including the 2005 Universal Declaration of Bioethics & Human Rights [UDBHR]) and thus modern international law, which serves as the single most influential ethical and legal body on state-level legislation of technology that includes AI-GNR. This study demonstrates the superior philosophical strengths (in metaphysical, formal logic, and ethical terms) of this personalism compared to the dominant competing modern ethics, in addition to its unique advantage of facilitating convergence of pluralistic belief systems to common ethical conclusions. It then applies this approach with a historic level of concrete specification to AI-GNR in its ethical, legal, and health aspects. Discussion: AI-GNR is already re-shaping humanity at a level, speed, and permanence never before seen. This study provides the first known definition and defense of a global bioethics that can unite the world in a common philosophical language already animating an ongoing political mission of enduring peace, and thus may help save humanity from AI-GNR's worst cataclysmic capacity.

Ethical Problem of the Trademark Registration for "NEON Artificial Human"

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STAR Labs have developed and launched what they call an "artificial human". According to the STAR Labs, this "artificial human" resembles actual human beings and has the ability to sympathize with a real person via real-time conversations. STAR Labs named it "NEON Artificial Human" and applied for its trademark registration. However, permitting this trademark registration involves an ethical problem because "artificial" means that it was created by human technology, indicating that the artificial human is a human being created using human technology. Creating an artificial human and granting its trademark registration would establish that humans can also be commercialized, thereby undermining human dignity. Thus, I examine the following four points. First, consumers experience the reality as well as the virtual world while using STAR Labs products, which can cause confusion regarding human identity. The trademark registration for "NEON Artificial Human" can further aggravate this confusion. The term "Artificial Human" stands out more to consumers than the ambiguous word "NEON." Second, the research and the pursuit of profit by companies in relation to artificial intelligence (AI) must be premised on minimal AI ethics for the global human community. If the research aims to create another species of humans as the STAR Labs CEO say, it must not be researched based on the AI ethics of each company. But before that, a crucial question must be answered in advance: Can we really allow humans to create other humans? Third, the most important thing is the corporate will and effort to comply with the AI ethics. The case of He Jiankui, who created the first human genetically edited babies overshadowing "On Human Gene Editing: International Summit Statement", shows that the same can happen in AI research and development. Fourth, the paradigm must be changed to actively accept AI ethics for trademark examination as well. We humans have not yet answered the question "Does humankind really want to create a new human species, albeit an 'artificial' one?" Therefore, we must not grant the exclusive rights of trademarks that suggest or imply the creation of a new human species as an AI technology-related product.

Human-in-the-loop Artificial Intelligence

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Little by little, newspapers are revealing the bright future that Artificial Intelligence (AI) is building. Intelligent machines will help everywhere. However, this bright future may have a possible dark side: a dramatic job market contraction before its unpredictable transformation. Hence, in a near future, large numbers of job seekers may need financial support while catching up with these novel unpredictable jobs. This possible job market crisis has an antidote inside. In fact, the rise of AI is sustained by the biggest knowledge theft of the recent years. Many learning AI machines are extracting knowledge from unaware skilled or unskilled workers by analyzing their interactions. By passionately doing their jobs, many of these workers are shooting themselves in the feet. In this paper, we propose Human-in-the-loop Artificial Intelligence (HitAI) as a fairer paradigm for AI systems. Recognizing that any AI system has humans in the loop, HitAI will reward these aware and unaware knowledge producers with a different scheme: decisions of AI systems generating revenues will repay the legitimate owners of the knowledge used for taking those decisions. As modern Merry Men, HitAI researchers should fight for a fairer Robin Hood Artificial Intelligence that gives back what it steals. https://www.jair.org/index.php/jair/article/view/11345

Does Artificial Intelligence Have a Purpose?

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Following the philosopher Hans Jonas, on our poster, we will ask whether the machines with 'intelligence' have a finality.
Going into the concept of the finality we will understand this as a purpose, as that which gives direction to the action, behavior aimed at achieving an objective. However, to reach this, movement (effectors) and sensation (ability to perceive, receptors) are not enough, but the willingness is necessary. That is, "behavior according to purposes demands the presence of purposes". Could one explain, as the cybernetics intended, the behavior towards a purpose without a purpose? It is appropriate to address the confusion between 'making a purpose' and 'having a purpose'. The separability, Jonas will say, between the purposes and its realization allows the latter to be delegated and distributed among many people without them even knowing the objective in question.
For Jonas the human being, the animal and, in general, living organisms are needy and indigent, thus creating a close union between need (metabolism) and impulse (to prolong existence). It is the emotions, and not only the data of the receivers, what creates goals and purposes. Thus, it is an interest that drives and makes the animal move. The animal is not only perception and movement but also feeling, which connects the previous two and is already present in the undifferentiated and pre animal phase in the continuous metabolic exchange.
The gradual difference of the human being will be that they want to; that is, they have intentionality and suffers when they fail. Nevertheless,
neither 'suffering' nor 'joy', nor 'success' nor 'failure', nor 'satisfaction' nor 'frustration' follow to the modus operandi of a machine […].
Therefore, on our poster, we will approach the question of purpose, will, emotions or moral acts in Artificial Intelligence.

Artificial Intelligence and the Future of Nursing Profession

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Artificial intelligence (AI) is already around us. The main functions of AI in healthcare are in learning situations, planning simulations for practice, problem-solving tools, and even speech recognition. AI technologies are being developed to improve patient management and outcomes.

This paper examines AI's nursing applications and their positive and negative aspects to provide future prospects for nursing professionals. Examples of AI applications for improving nursing education with intelligent systems are protocols and guidelines, automatic diagnosing and decision support tools, temporal reasoning and planning, natural language and terminology, image and signal processing.

Examples for nursing practice with AI are electronic health records, voice electronic nursing record systems, triage nurse, virtual nurse platform for intervention, automated guided vehicles. Positive outcomes of AI in nursing practice as follows: AI could help nurses with paperwork and leave them more time for patients. Negative outcomes are as follows: overreliance on AI technologies may depersonalize nurse-patient interactions and erode rapport, accountability toward AI. Decision making for patients via AI algorithm will be a chance for regardless of the patients' desire, technological literacy, and economic means, and violation of patients' autonomy, privacy, and confidentiality in inpatient data sharing. However, when it goes wrong, the question arises: "Who should be responsible, and can we trust AI?"

Therefore, nurses need to understand how AI can be most helpful for patients, skilled nursing education, and future practice. An essential step to this is to examine the personalist bioethical issues in nursing education and training with AI and deep ethical learning about AI application. Through this process, AI in nursing will be a system that supports advanced technology and high touch in nursing.

The Advent of Artificial Intelligence in Arts or th Creativityof Artifacts

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The humanoid Ai-Da, fruit of art gallery director Aidan Meller's idea, represents the "first ultra-realistic humanoid robot in the world". One of the main objectives expressed by those who designed it is stir up a debate on the concept of life and on the future of humanity itself. In the poster, after the analysis of such a project, we will proceed to some brief reflections on the concept of life, followed by an examination of the concept of creativity, to evaluate its possible application to an artificial intelligence. In order to avoid moving away from the truth concerning man, we consider it fundamental not to limit ourselves to a biological-organic conception of life: life is a similar concept, and dwelling on a single meaning means losing sight of the psychic and spiritual dimensions, which together with the somatic dimension constitute the human being. The lack of a suitable distinction between artificial intelligence and the human mind is an expression of a rationality that has as its fruit a mechanistic model of nature; which holds it possible to automate exquisitely human activities, such as creating a work of art. All this proves misleading, as it leads to the neglect of other areas of application of artificial intelligence, which would favor a human-sized technological revolution.

Accessible Numbers: Artificial Intelligence and Cultural Inclusion

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Accessible Numbers: Artificial Intelligence and Cultural Inclusion There cannot be a reflection on Artificial Intelligence ethics, regardless of an analysis of the impact beyond the mere technical implications. The impact of AI should, first of all, generate a profound substantial question, on the way in which human being is evolving and how the interconnected knowledge is transforming humanity. It is no longer possible to interpret social reality, in all its manifestations, regardless of constant interaction with technology.Artificial Intelligence has become an integral part of the ecosystems of production, diffusion and circulation of knowledge and information. On the one hand, it is inevitable to recognize and accept the importance of AI for the advancement of knowledge. On the other hand, it is necessary to promote a dimension of education that allows each person to understand the uniqueness of human thought and to rediscover the substantial value of free will.In the international context there is constant talk about new humanism, digital humanism and new anthropocentrism, but it is essential to prepare methodologies and tools that allow every level of global society to understand the profound value of these concepts. The application of AI in everyday life is transforming cognitive processes and epistemological dynamics, resizing the value of experience, radically changing the dimension of interaction, delegitimizing the central role of doubt as a tool for stimulating knowledge and discovery.The potential for AI support to cognitive processes involves the risk of feeding dynamics that replace thought, rather than assisting it, resulting in less autonomy in the exercise of critical thinking and in enhancing imagination as a cognitive experience. Encouraging the exercise of critical thinking means, first of all, creating differentiated tools that allow each person, at every educational and cultural level, to understand what AI is and what its real impact could be on everyday life.We have the responsibility to promote conceptual accessibility tools, to find a way in which a deeper understanding of the AI phenomenon might benefit the design of accessible communication strategies and measures for cultural inclusion.

In Tech we Trust...but we need Human as a Right

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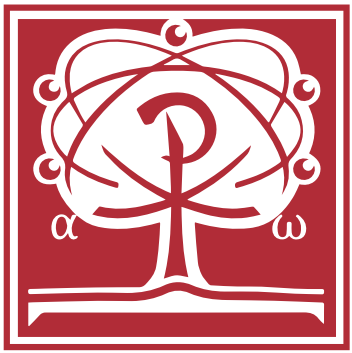
The poster will address some issues related to the use of artificial intelligence for automatic decision-making purposes, with a specific focus on those processings that have a significant impact on people fundamental rights. The research takes as starting human dignity, exploring the importance of this principle in contemporary personbased constitutional law theory. This assumption will be key-element to analyze to the relationship between two other principles that represent the two face of the current technological revolution. On the one hand, there is the principle of digital by default: a strategy based on the presumption that technology may positively contribute to the efficiency of decision-making procedures so that to make it a new right. On the other, instead, there are the issues concerning the so-called non-exclusivity principle: an assumption that aims to guarantee humansupervision on automatic processes, ensuring the right to challenge data-driven decisions before a human expert operator. On these premises, the poster exposes a study on the recent case-law about AI in the EU and national case-law. In particular, the aim is to see how these decisions are fostering a right-friendly approach in the use of dataintensive technologies, even setting some preliminary legal limitations. The analysis principally converges on three main points. As first, it focuses on the relevant constitutional case-law that, over time, have set limits to the use of automatisms in the application of the law. Then it examines the different opinions concerning the principle of non-exclusivity, focusing on the reasons why should be desirable the automation of just nondiscretionary decisions. Eventually, it addresses the issues related to fairness and transparency of decisionmaking, exploring the possible technical and legal solutions that might ensure the interests of the people involved. "In tech we trust... but we need human as a right", therefore, hopes to contribute in the ongoing interdisciplinary debate on these topics, sharing common concerns emerging in the regulation of AI. Building on the principles of constitutional law tradition and human rights literacy, the aim is to foster an appropriate translation of the related values in the design and the use of these technologies, promoting an



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