Design of an advanced methodology and integration of the ethical factor for the design of AI-based models.

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Abstract (300 word limit)

Statement of the Problem: Data systems and AI-based algorithms can be deployed at unprecedented scale and speed. Unintended consequences will affect people with the same scale and speed. Developers of AI-based models, as well as data analysts and scientists, have an ethical responsibility for the systems they create and their unintended consequences. **Methodology & Theoretical Orientation:** There is an urgent need to identify methodologies to design such AI-based systems that will drive technological innovation and not slow down the development of large-scale AI while meeting the innate ethical requirements applicable to individuals and demanded by today's society. We need more than our own values and these guidelines (be fair, provide explainability and transparency, be safe and secure) to get there. In the current state of the market, it is necessary to teach all stakeholders in AI-based systems to design with methodologies that ensure ethical and autonomous behavior of such systems. **Findings.** A methodology is developed to ensure the ethical design of intelligent systems, based on simple and up-to-date technological design principles, as well as specific activities with an integral vision of the IA-project. It includes continuous improvement cycle with feedback from unexpected outcomes and newly discovered consequences as opportunities. **Conclusion & Significance:** Own values, good human-centered practices and guidelines are no more enough to mitigate potentially harmful consequences and bias. They need to be implemented in each specific IA initiative and this is not obvious. This proposed methodology provides an advanced and integrative methodological framework for design IA projects.

Image

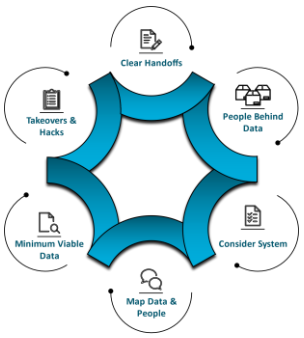


Fig. 1 Specific activities exploring ethically design IA systems

Recent Publications (minimum 5)

1. Náñez S., Jorge Vázquez, J., Reier Forradellas R. (2020) Detection of vulnerable areas using an Acces to Cash Index: Solutions Based on the Pharmacy Network and a CBDC. Evidence Based on Ávila (Spain). Sustainability 2020, Volume 12, Issue 18, 7480
2. Náñez S., Reier Forradellas R., Pi Morell O., Jorge Vázquez, J., (2021) Digitalization, circular economy and environmental sustainability: application of artificial intelligence in the efficient self-management of waste. Sustainability (ISSN 2071 – 1050)
3. Náñez S., Reier Forradellas R., Jorge Vázquez, J., Rodríguez M.L. (2021) Applied Machine Learning in Social Sciences: Neural Networks and Crime Prediction. Social Sciences 2021, Volume 10, Issue 1, 4
4. Reier Forradellas R., Náñez S. (2020) "Entrepreneurship in the university area: case study for its promotion through the acquisition of competences". Values Education in the Digital Age: An Action Training and Research Approach; Wheaton, MD: CICIDE, ISBN: 978-1-943697-13-7
5. Reier Forradellas R., Náñez S. (2020) "New approaches in the elaboration of the final graduation project. study of success stories and acquired competencies". La Educación Superior en el Siglo XXI: Innovaciones Didácticas y Pedagógicas; Wheaton, MD: CICIDE. ISBN: 978-1-943697-22-9



Biography

PhD Ricardo Reier Forradellas is Director of the Business School of the University. Coordinator Official Master's Degree MBA, Coordinator Official Master's Degree in Direction and Management of Spots Institutions. Coordinator Official Master's Degree in CIbersecurity. Coordinator Master's Degree ECommerce, Coordinator Master's Degree Digital Transformation, Coordinator Master's Degree Big Data, Coordinator Master´s Degree Artificial Intelligence, Coordinator Master´s Degree Industry 4.0., Coordinator Master´s Degree Internet of Things, Coordinator Master´s Degree Agriculture 4.0.

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Biography

Customers and Technology. This exciting combination represents the evolution of his career, which in the last 20 years has been linked to business development, Internet and digital transformation. Passion and extensive experience as a teacher (> 20years) in postgraduate programs, masters and degrees, both in universities and business schools. Management experience as director of customer experience and digital technology and director of digital transformation at Telefonica. Author of several books about technological business models. Research areas based on Artificial Intelligence, its impact on Digital Marketing and ethics.

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