UNIVERSITÀ DI PISA

DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE

Dottorato di Ricerca in Ingegneria dell'Informazione

Doctoral Course

"Ethics of AI"

Loretta Latronico

European Space Agency, ESA-ESRIN

Short Abstract:

Artificial Intelligence (AI) is already happening today, and it is pervasive, often invisibly embedded in our day-to-day tools. As AI evolves, so do the many controversies that surround the use of this advanced technology. From military drones to shopping recommendations, AI is powering a wide array of smart products and services across nearly every industry—and with it, creating new ethical dilemmas for which there are no easy answers. As technology continues to develop at an unprecedented rate, those involved with AI often lack the tools and knowledge to expertly navigate ethical challenges. This course examines today's most pressing ethical issues related to AI and explores ways to leverage technology to benefit mankind. It provides insights into how to achieve responsible innovation of technology, to contribute to the quality of human life, sustainability and fair allocation of risks and benefits.

Course Contents in brief:

- Explore the foundations of Philosophy of Technology and Responsible Innovation for the benefit of mankind
- Understand the technological basis of ethics in AI
- Analyse machine bias and other ethical risks
- Explore issues of AI in safety and progress, human rights, economics of happiness and deep ecology
- Assess the individual and corporate responsibilities related to AI deployment
- Examine the available frameworks for Derisking AI by design
- Examine the state-of-the-art for regulatory frameworks on artificial intelligence
- Exploit AI and Business Models Innovation in the space industry through the lenses of ethical challenges
- Work in teams to resolve Case study assignments inspired by real-life

Total # of hours of lecture: 20 hours

References:

[1] M. Coeckelbergh (2020), AI Ethics, The MIT Press, http://mitpress.mit.edu

[2] B. Christian (2020), The alignment problem. Machine Learning and Human Values, First Edition, New York, NY: W.W. Norton & Company

[3] Ethics I.1-7, Aristotle Physics II.1-3

[4] MIT Professional Education (Jun 2021), "Ethics of AI: Safeguarding Humanity"

CV of the Teacher

Loretta Latronico is an experienced Business Controller at the ESA Centre for Earth Observation (ESRIN) located in Italy. Her current research centers around AI and Business Models Innovation in the space industry with a focus on Ethics of AI and Responsible Technology. She holds a Ph.D in Managerial Engineering at the University of Pisa, a Bachelor and Master Degree in Economics and Value Creation at the University "La Sapienza" of Rome. After graduation and a research experience in an ICT spin-off company of La Sapienza University, in 2010 she joined ESA-ESTEC in The Netherlands as Young Graduate in the Advanced Concepts Team. She then moved back to Italy in 2019. During these 11 years at ESA she has gained experience in various Space Missions and Programmes (Navigation, ATV, EarthCARE, Copernicus). Since 2011 she promotes development projects in Madagascar, where she has been several times in the past years as funder, volunteer and partner with direct involvement in the field work. She is passionate about Women empowerment, Permaculture, Ecology, Education, Performative Arts, Music, Photography, Astronomy and Economics of Happiness.

Room and Schedule

Room: *Aula Riunioni del Dipartimento di Ingegneria dell'Informazione, Via G. Caruso 16, Pisa – Ground Floor*

Schedule:

13/02/2023 h. 8.30-13.30

14/02/2023 h.13.30-18.30

15/02/2023 h. 8.30-13.30

16/02/2023 h. 8.30-13.30