

Artificial Intelligence for an Innovation Driven Society

UGRA_016143

Departments	Data, Analytics, Technology and Artificial Intelligence (DATA), Dept. of Operations, Innovation & Data Sciences
Teaching Languages	English
ECTS	4
Teacher responsible	Queralt Prat Pubill - queralt.prat@esade.edu

Course Goals	<p>Understanding key characteristics of Artificial Intelligence</p> <p>Distinguishing between different types of artificial intelligence deployments, requirements and consequences.</p> <p>Articulating and Evaluating designing principles for artificial intelligence to foster innovation and diminish negative side effects.</p>
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Previous knowledge	Understanding Management Functions and Needs
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Prerequisites	Willingness and interest to learn about AI
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Description

Course contribution to program	<p>Artificial intelligence (AI) is rapidly becoming an integral part of decision-making processes in both business and government, greatly impacting our daily lives. From the pervasive content recommendation algorithms to the recruitment procedures, these automated decision systems are utilized in various domains such as government resource allocation and life-altering determinations like granting bail.</p> <p>Despite the growing prevalence of AI systems, many managers possess limited knowledge about their inner workings, which hinders their ability to effectively implement these systems and leverage their potential for innovation while managing their potential pitfalls. Like any human creation, AI systems can be susceptible to errors and biases. However, in order to foster a thriving environment for innovation, it is essential to comprehend and effectively address these issues.</p>
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This course aims to empower participants with comprehensive knowledge about artificial intelligence systems, enabling them to cultivate a profound understanding of how AI can be effectively deployed in the business context and its far-reaching implications. By doing so, the course seeks to provide managers with the necessary skills to drive innovation through AI, while also fostering an understanding of its benefits and limitations. Moreover, the course emphasizes the importance of exercising proper control over the consequences that may arise from AI implementation, ensuring responsible and ethical practices throughout the process.

Short description

"Somebody cloned me in China. In fact, an army of my clones is in China, they are using my image, my voice and their propaganda to make money" . Olga Loiek, 2024, Cognitive Science & Computation student at UPenn.

Course content

Accelerated interaction of the latest science and technology is catalyzing a surge in COTS ("Commercial Off-The-Shelf") AI solutions, characterized by their remarkable capabilities. Today, the availability of off-the-shelf AI services enables seamless integration of AI across organisations, diminishing the advantage for companies that initiated their digital transformation early and invested in developing APIs "Application Programming Interfaces" and SDKs "Software Development Kits".

Current accessibility results in higher competitive pressures for Small and Medium sized companies "SME's" to deploy AI technologies. Thus, this influx of advanced COTS AI technologies is reshaping the landscape of innovation and driving unprecedented advancements in efficiency, productivity, decision-making processes and innovation if thoughtfully deployed.

By carefully evaluating and integrating COTS AI solutions, organizations can leverage the latest advancements in AI technology to improve their processes as well as innovate. Crucially, understanding data creation and management as well as assessing functionality, compatibility, integration and security of those AI systems.

Moreover, the irruption of Generative AI is democratizing software development, enabling non-software developers to create sophisticated applications and solutions. Generative AI tools allow users to generate code, automate workflows, and develop applications with minimal programming knowledge. This opens new opportunities for innovation across various industries, empowering employees at all levels to contribute to technological advancements.

Any organisation needs to rethink how to organise itself in view of the continuous and dynamic changes created by innovation. New business models, access to new data, decisions made with artificial intelligence and new realities mean that rules, processes and systems become rapidly obsolete. For

this reason, new multi-stakeholder governance models focused on innovation might need to be designed, developed and tested because we have never had in human history the possibility of the creation and development of infinitely everchanging cyber-physical spaces in which we live.

Bibliography

Benaich, N. (2024). State of AI Report 2024. In Air Street Capital. <https://www.stateof.ai/>

Burkov, A. (2020). Machine learning engineering.

Mcfeetors, J., & Pant, T. (2022). Rapid Product Development with n8n.

Mitchell, M. (2021). Why AI is harder than we think. ArXiv Preprint ArXiv:2104.12871. <https://doi.org/10.1145/3449639.3465421>

Natarajan, P., Rogers, B., Dixon, E., Christensen, J., Borne, K., Wilkinson, L., & Mohan, S. (2022). Demystifying AI for the enterprise. Routledge.

Sabesan, K., Sivagamisundari, & Dutta, N. (2025). Generative AI for everyone.

Stanford University. (2024). AI Index Report 2024.

This bibliography is subject to trimming and updating to incorporate better and more recent references. Additionally, we may review the latest research on the topic of Generative AI.

Content

#	Topic
1	Module 1: Setting the stage Session 1. Organising for innovation. Artificial intelligence in our lives.
2	Session 2. AI fundamentals
3	Session 3. AI functionality
4	Module 2: Case studies Session 4. Cases: Using AI to understand data (1)
5	Session 5. Cases: Using AI to understand data (2)
6	Session 6. Cases: Automating Workflows (1)
7	Session 7. Cases: Automating Workflows (2)
8	Session 8. Cases: Introduction Building Applications with AI agents
9	Module 3: Innovation Strategies with AI Session 9. Presentations
10	Session 10. Conditions for innovation, diagnosis of innovation readiness. Wrap-up

Assessment

Tool	Assessment tool	Category	Weight %
Quizzes/tests	Multiple Choice Test	Ordinary round	50.00%
Written and/or oral exams	Written Exam	Retake	100.00%
Final individual project	Individual Project	Ordinary round	50.00%

PROGRAMS

B13-Exchange Program Bachelor of Business Administration (BBA) (Undergraduates: Business)
B13 Year 1 (Optative)

BBA23-Bachelor of Business Administration (BBA) (Undergraduates: Business)
BBA23 Year 3 (Optative)
BBA23 Year 1 (Optative)
BBA23 Year 4 (Optative)
BBA23 Year 2 (Optative)

BBA25-Bachelor of Business Administration (BBA) (Undergraduates: Business)
BBA25 Year 3 (Optative)

GBD20-Double Degree in Business Administration and Law (Undergraduates: Law)
GBD20 Year 1 (Mandatory)
GBD20 Year 4 (Mandatory)
GBD20 Year 5 (Mandatory)

GEL19-Bachelor in Global Governance, Economics and Legal Order (Undergraduates: Law)
GEL19 Year 4 (Optative)
GEL19 Year 2 (Optative)
GEL19 Year 3 (Optative)
GEL19 Year 1 (Optative)

GEL23-Bachelor in Global Governance, Economics and Legal Order (Undergraduates: Law)
GEL23 Year 3 (Optative)
GEL23 Year 1 (Optative)
GEL23 Year 4 (Optative)
GEL23 Year 2 (Optative)