CS-500

AI product management

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<table>
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<tr>
<th>Cursus</th>
<th>Sem.</th>
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<tr>
<td>Computer science</td>
<td>MA1, MA3</td>
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<tr>
<td>Cybersecurity</td>
<td>MA1, MA3</td>
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<td>Data Science</td>
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<td>SC master EPFL</td>
<td>MA1, MA3</td>
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Language of teaching  English
Credits               6
Session               Winter
Semester              Fall
Exam                  During the semester
Workload              180h
Weeks                 14
Hours                 7 weekly
Lecture               2 weekly
Exercises             2 weekly
Practical work        3 weekly

Number of positions

Summary
The course focuses on the development of real-word AI/ML products. It is intended for students who have acquired a theoretical background in AI/ML and are interested in applying that toward developing AI/ML-oriented products.

Content
AI is set to transform several industry sectors, and there is high demand for AI product managers. AI product management is a complex role that requires an understanding of both AI and product management. This course will enable students to identify opportunities for developing new AI products, understand when they should use AI in an existing product/process, manage the development of AI products, and launch AI products successfully. The lectures will introduce general product management to the students, and the guest lectures, by leading figures in AI industries, explain how the general product management skills are applied to the development of AI products.

Module 1: Introduction to AI product management
• Why is this needed?
• Product strategy
• Setting product objectives & identifying opportunities
• Understanding customers and problems

Module 2: Product research and scoping
• Creating and testing hypothesis
• Defining product requirements
• Defining the product roadmap

Module 3: Product design and development
• Designing the product
• Developing the product
• Marketing the product
• Managing teams and team dynamics

Module 4: Launch and commercialization of the product
• Managing teams and stakeholders
• Effective communication with stakeholders
• Product launch
• Product performance metrics

Keywords
Artificial Intelligence (AI), AI product managers, Innovation

Learning Prerequisites
Required courses
CS-233 Introduction to machine learning or CS-433 Machine learning or equivalent course on the basics of machine learning and deep learning

Important concepts to start the course
• Python programming
• Basics of deep learning and machine learning
• Basics of probability and statistics

Learning Outcomes
By the end of the course, the student must be able to:
• and understand opportunities for an AI product or using AI within an existing product
• the development of AI features
• Launch AI products successfully

Transversal skills
• Demonstrate the capacity for critical thinking
• Evaluate one’s own performance in the team, receive and respond appropriately to feedback.
• Communicate effectively, being understood, including across different languages and cultures.
• Set objectives and design an action plan to reach those objectives.
• Chair a meeting to achieve a particular agenda, maximising participation.
• Resolve conflicts in ways that are productive for the task and the people concerned.
• Make an oral presentation.
• Take account of the social and human dimensions of the engineering profession.

Teaching methods
• Formal lectures
• Group activities
• Class discussions
• Simulation games
• Hands-on exercises
• Project-based learning
• Real-world case studies
• Guest lectures by leading academic and industry figures
Expected student activities

- **Individual**: Case evaluations, self-study, class discussions
- **In-group**: In-class exercises, projects, simulations games
- **Presentation**: Weekly presentations of assignments in coaching sessions

Assessment methods

Continuous evaluation of case reports, projects, individual and group presentations, class discussions, during the semester. More precisely:

- **25%** Weekly in-class work and engagement
- **45%** Class assignments, presentations, projects, and case reports
- **30%** Final (final report and presentation and understanding of the case)

Supervision

- Office hours: Yes
- Assistants: Yes
- Forum: Yes

Resources

**Bibliography**


**Ressources en bibliothèque**

- *How to Create Tech Products Customers Love* / Cagan
- *Competing in the age of AI* / Iansiti
- *Noise* / Kahneman

**Moodle Link**

- [https://go.epfl.ch/CS-500](https://go.epfl.ch/CS-500)