CS-500

AI product management

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Cursus	Sem.	Type
Computer science	MA1, MA3	Opt.
Cybersecurity	MA1, MA3	Opt.
Data Science	MA1, MA3	Opt.
SC master EPFL	MA1, MA3	Opt.

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 Machinie learning or equivalent course on the basics of machine learning and deep learning

Important concepts to start the course

- Python programming
- Bascis 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 figuers

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, proejcts, 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

- Cagan, M. (2017). *How to Create Tech Products Customers Love.* Wiley
- Kahneman, D., Sibony, O., & Sunstein, C. R. (2021). *Noise: A flaw in human judgment*. Little, Brown.
- Iansiti, M., & Lakhani, K. R. (2020). *Competing in the age of AI: strategy and leadership when algorithms and networks run the world*. Harvard Business Press.

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