INTELLIGENCE ARTIFICIELLE INTERDISCIPLINAIRE (IAI)

Les cours en intelligence artificielle interdisciplinaire (IAI) sont offerts par la Faculté de génie

IAI 5100 Foundations and Applications of Machine Learning (3 units)

The capabilities and limitations of machine learning; problem formulation; supervised and unsupervised learning techniques; deploying, monitoring, and evaluating machine learning models; storytelling and assessing the results of learning; current advances in application areas such as business, law, arts, social sciences and education. Recommended prerequisite: Aptitude for analytics. Although no specific programming background is required, students should be comfortable with computing technologies.

Course Component: Lecture

Courses CSI 5155, ELG 5255, IAI 5100, IAI 5101, MIA 5100 cannot be combined for units.

IAI 5101 Foundations of Machine Learning for Scientists and Engineers (3 units)

The capabilities and limitations of machine learning; problem formulation and requirement engineering; supervised and unsupervised learning techniques; designing, deploying, monitoring and evaluating machine learning models; assessing the results of learning; current advances in application areas such as engineering, science and health. Recommended prerequisite: No specific programming required, students should have taken an introduction to programming at the undergraduate level as well as linear algebra I & calculus II.

Course Component: Lecture

Courses CSI 5155, ELG 5255, IAI 5100, IAI 5101, MIA 5100, SYS 5185 cannot be combined for units.

IAI 5120 Essential Concepts in Data Science (3 units)

An introduction to the foundations of data science using a case study approach; overview of the data science process: types of tasks and models, data manipulation, exploratory data analysis, data summarization and data visualization; predictive modeling, descriptive modeling; reporting and deployment. Recommended prerequisite : It is recommended to have completed a course on statistics and probability. Although no specific programming background is required, students should be comfortable with computing technologies.

Course Component: Lecture

Courses DTI 5125, DTI 5126, IAI 5120, SYS 5170 cannot be combined for units.

IAI 5130 Ethics for Design, AI and Robotics (3 units)

The interplay between Artificial Intelligence, society, the law, and ethics; the course will explore how advances in Artificial Intelligence affect the law and other social institutions, and, conversely, how societal, legal, and ethical considerations affect the development and deployment of Artificial Intelligence technologies. Recommended prerequisite: Although no specific programming background is required, students should have courses or practical experience to be comfortable with computing technologies.

Course Component: Lecture

Courses CSI 5195, DTI 5310, DTO 5310, ELG5295, IAI 5130 and SYS 5295 cannot be combined for units. This course is reserved for students registered in a Computer Science Program with a Concentration Applied Artificial Intelligence.