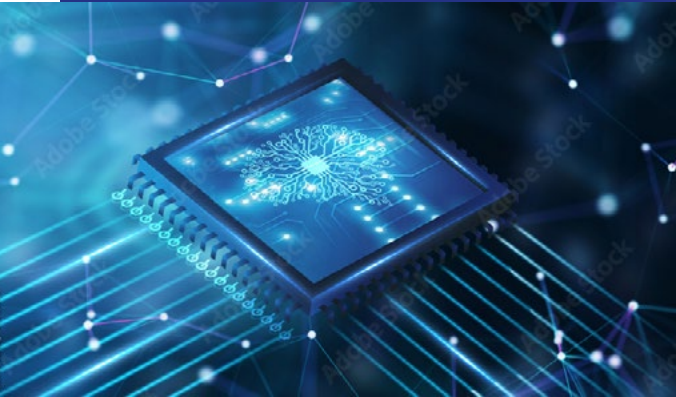




# Artificial Intelligence



## Programme description

Artificial Intelligence (AI) is oriented towards development and application of computational technologies that are inspired by the way people learn, reason, and make decisions. Since the field's inception sixty years ago, it has experienced different trends with an unpredictable rate of progress. Nowadays, AI research and technologies pervade our lives, having greatly influenced domains such as transportation, entertainment, home and service robotics, education, security, and healthcare. This is mainly due to the deluge of data and a remarkable success of the data-driven paradigm, which has displaced the traditional paradigms of AI.

Poznan University of Technology offers a M.Sc. Programme in Artificial Intelligence taught entirely in English. The three-semester programme starts at the end of February and is a natural continuation of a B.Sc. Programme in Artificial Intelligence offered by the university, and thus is meant for the B.Sc. graduates in the AI-related fields. It has been launched as a response to a growing demand for highly specialized AI experts on both Polish and international markets. The curriculum aims at providing graduates with an in-depth knowledge of the latest advances in the field of AI, so that they are prepared to create intelligent systems and solve complex problems in AI as part of innovative business activities, work in the area of research and development (R&D) or perform scientific research and undertake doctoral studies.

The classes are taught in English and delivered by the world-recognized scientists whose research in AI has been appreciated with the prestigious awards by international societies, journals, and conferences. Graduates will acquire detailed knowledge in the fields of AI, machine learning and data analysis: machine perception, program synthesis, multidimensional statistics, intelligent optimization, machine learning theory, process mining, multicriteria optimization, natural language processing, learning process automation, machine learning tools, dimensionality reduction, knowledge extraction, machine learning graphs, information theory methods, programming constraints, quantum machine learning, as well as numerous applications of artificial intelligence methods, e.g. in e-commerce, games, mobile applications, biomedical informatics or cryptography.

## Course summary:

### Semester 1

- Process Mining
- Biologically-inspired Algorithms and Models
- Machine Perception
- Program Synthesis
- Multivariate Statistics
- Multiobjective Optimization
- Machine Learning Theory
- Applications of Artificial Intelligence in IT
- Communication in English / Polish
- Basic health and safety training

### Semester 2

- Selected Topics in Natural Language Processing
- Elective courses: Artificial Intelligence in Cryptography / Information Theory Methods in Data Analysis
- Automated Machine Learning
- Introduction to Quantum Information and Quantum Machine Learning
- Elective courses: Machine Learning Operations (MLOps) / Advanced Topics in Dimensionality Reduction
- Mobile Application Development with AI Elements
- Research Lab
- Knowledge Extraction
- Scientific and Technical Writing
- Pre-diploma Seminar

### Semester 3

- Diploma Seminar
- Artificial Intelligence in Biomedical Informatics
- Interpersonal Communication
- Master's Thesis Preparation
- Elective courses: Introduction to Cognitive Science / IT innovations and humanity
- Neuro-symbolic Integration
- Elective courses: Machine Learning with Graphs / Constraint Programming
- Elective courses: Data science and machine learning for e-commerce / AI in Games



# Artificial Intelligence

<b>University</b>	Poznan University of Technology Poznan, POLAND
<b>Degree to be obtained</b>	Master of Science
<b>Programme website</b>	<a href="https://www.put.poznan.pl/en">https://www.put.poznan.pl/en</a>
<b>Contact</b>	International Relations Office Piotrowo 5, room 101 61-138 Poznań, Poland
<b>Phone</b>	+48 61 665 3544
<b>Fax</b>	+48 61 665 3956
<b>E-mail</b>	<a href="mailto:study@put.poznan.pl">study@put.poznan.pl</a>
<b>Language of instruction</b>	English
<b>ECTS points</b>	90
<b>Duration</b>	1.5 years (3 semesters)
<b>Programme begins</b>	end of February
<b>Programme ends</b>	end of June
<b>Deadline for application</b>	3 months before the course starts – end of November
<b>Education requirements</b>	English language – level B2 (Common European Framework), Bachelor's degree (or equivalent) in Artificial Intelligence or in Data Science. Full list of the required documents is available at: <a href="https://www.put.poznan.pl/en">https://www.put.poznan.pl/en</a>
<b>Mode of instruction</b>	Lectures, classes, laboratory classes, projects, workshops, internships

