



UNIVERSITÀ
DEGLI STUDI
DI MILANO

Bachelor programme in

Artificial intelligence

facoltà di

SCIENZE E TECNOLOGIE

The Bachelor of Science in Artificial Intelligence is an **international** and **inter-university project** of the Universities of Milano-Bicocca, Milano Statale and Pavia. Taught entirely in English, the programme will have its administrative headquarters in Pavia, but classes will be held on all three campuses.

Objectives

The programme trains experts in the theoretical foundations, techniques, methodologies and applications of artificial intelligence, in order to contribute to the diffusion and advancement of knowledge and skills on this subject and its applications, thus promoting technological innovation and fostering the economic and social development of our country. Graduates of the Artificial Intelligence programme will have highly interdisciplinary knowledge and skills.

They will have received solid training in the fundamentals of some areas of computer science, mathematics, physics, statistics and cognitive sciences, with a focus on the theoretical bases and techniques of artificial intelligence. They will also have ethical and legal training as required to understand the constraints that limit a socially acceptable use of these techniques.

In the final phase of training, students will have the opportunity to hone certain subjects at their choice, based on their personal goals, and learn how to apply artificial intelligence to specific areas, such as communication, automation and robotics, cognitive sciences, and physics technologies.

Career prospects

Graduates can find employment in both the private and public sectors in small and medium-sized innovative companies, large industrial players, environment and space monitoring and management institutions, scientific institutes for research, hospitalization and healthcare (IRCCS), hospitals and research centres, R&D departments of ICT industries, manufacturing and service companies, public administrations operating in the industrial, environmental and health sectors.

They can work with consultancy and service firms on the development of artificial intelligence tools in the fields of healthcare, banking and credit, engineering and sensors, marketing, insurance, logistics and transport, telecommunications and media.

Degree syllabus

I year

COMPULSORY LEARNING ACTIVITIES	ECTS
Calculus	12
Cognitive psychology	6
Computational logic	6
Computer programming, algorithms and data structures	12
Experimental physics for AI	6
Knowledge representation and reasoning	12
Theoretical and computational linear algebra	6

II year

COMPULSORY LEARNING ACTIVITIES	ECTS
Ethics, law and AI	12
Fuzzy systems and evolutionary computing	6
Machine learning, artificial neural networks and deep learning	12
Probability and statistical inference	12
Text mining and natural language processing	6
Theoretical and quantum Physics for AI	12

III year

COMPULSORY LEARNING ACTIVITIES	ECTS
Statistical modelling	6
Brain modelling	6

During the third year, students can choose **one of the following 4 tracks** containing four courses each:

Track 1 - Data analysis, communication and marketing

COMPULSORY LEARNING ACTIVITIES	ECTS
Data and Knowledge bases	6
Information retrieval and recommender systems	6
Web and social media search and analysis	6
Artificial intelligence for communication and marketing	6

Track 2 - Industrial systems and healthcare

COMPULSORY LEARNING ACTIVITIES	ECTS
Signal and image processing	6
Dynamical systems for industrial automation	6
Medical applications and health-care	6
Human-system interaction	6

Track 3 - Brain, cognition and society

COMPULSORY LEARNING ACTIVITIES	ECTS
Logic for practical reasoning and AI	6
Brain-inspired neural networks and neural architectures	6
Human-system interaction	6
AI and society	6

Track 4 - Physics for AI: environment, health and quantum information

COMPULSORY LEARNING ACTIVITIES	ECTS
Experimental physics for AI 2	6
Imaging and spectroscopy for environment and health	6
Materials and platforms for AI	6
Mathematics for imaging and signal processing	6

Elective activities common to both paths:

- 12 ects for elective courses
- 9 ects for stage or laboratories
- 3 ects for Final exam

Among Unimi Master programmes, graduates can be admitted to:

- Computer science
- Data Science for Economics
- Informatics Security
- Artificial Intelligence for science and technology
- Human-Centered Artificial Intelligence
- Bioinformatics for Computational Genomics

Regulations

The official rules and regulations of the programme are available on the course website.

Applications and admissions

Limited enrolment programme with admission test (English TOLC-I, CISIA Test OnLine, www.cisiaonline.it/).

OFA - Obblighi formativi aggiuntivi (Additional Training Obligation)

Candidates eligible to admission may be required to fulfil additional learning requirements (OFA) based on their score in the 'Mathematics' section of the test.

INFO

WEBSITE OF THE PROGRAMME



www.bai.unipv.it

- 🕒 **Contacts:** <https://bai.unipv.it/home-eng/contact/>
- 🎓 **Disciplinary classification:** Computer science (L-31)
- 🕒 **Duration:** 3 years (180 ects)
- 📅 **Attendance:** Highly recommended
- 📍 **Locations:**
 - Università degli Studi di Milano – Città Studi Campus
 - Università degli Studi di Milano Bicocca
 - Università degli Studi di Pavia – Cravino Campus
- 🕒 **Useful websites:**
 - orientamento.di.unimi.it
 - www.unimi.it/it/corsi/laurea-triennale/artificial-intelligence



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