

Admission requirements

The AI4CI Master admits students with at least a bachelor in computer science, computer engineering, electrical engineering, software engineering, telecommunications engineering at the M1 (first year of master). Admission is also possible at the M2 (second-year) level in case of 4 years of university studies.

Modalités et délais d'accès

Le master est accessible aux étudiants possédant au moins une licence niveau L3 ou un diplôme d'ingénieur en informatique ou électronique. Les enseignements étant en anglais, un certificat d'anglais de niveau minimum B1 pour le M1, et de niveau minimum B2 pour le M2 est demandé, sauf pour les citoyens de pays avec l'Anglais parmi les langues officielles ou ayant effectué la licence (bachelor) en anglais (une attestation de l'université d'origine certifiant ceci est néanmoins demandée). L'admission en M2 est possible avec un niveau bac+4 en fonction des formations suivies en 4e année universitaire.

Assessment

Validation of each year with a weighted average (with weights corresponding to the ECTS of each module) $\geq 10/20$.



Contact

ai4ci.eu

ai4ci.roc.cnam.fr

Département Informatique
2 rue Conté, Paris 3^e



Fiche

formation

VAE
disponible

le cnam

Artificial Intelligence for Connected Industries

International Master (Initial training) — MR11601D

Prerequisites

- ♦ M1: Bachelor's degree (Licence) required in computer science, computer engineering, electrical engineering, software engineering or telecommunications engineering.
- ♦ M2: Master-level (Bac + 4) required, eligible depending on the 4th year curriculum followed. An English certificate of at least B2 for M1 and C1 for M2 is required (except for citizens of countries where English is an official language or those who completed their bachelor's studies in English – proof required). The French course is prioritized over other optional courses in case of assessment of a low level of French.

Objectives

This master's program is aimed at computer-science or computer/electrical engineering students who want to become specialists in artificial intelligence applied to networked systems, industrial automation and robotics.

The AI4CI master is a European master opened at Cnam (Paris) and with partner universities in Germany, Romania, Spain and Ukraine. Students will study fundamentals of AI and ML and their application to core technologies underpinning connected systems - including advanced network architectures, IoT and computer systems, automatics and advanced automation for industrial networks and robotics, as well as 5G, post-5G and cloud networking architectures shaping the digital society.

Skills

- ♦ Deep Learning, deep neural networks
- ♦ Machine Learning, distributed learning and inference algorithms and systems
- ♦ Generative AI and automation systems.
- ♦ Configure data-transport networks using AI/ML
- ♦ Implement machine-to-machine communications and massive-data management/
- ♦ Integrate AI and machine-learning models into processing pipelines
- ♦ Apply cybersecurity principles and conduct AI-assisted vulnerability audits.
- ♦ Smart factories, Industry 4.0
- ♦ datacenter and cloud providers
- ♦ IoT software editors
- ♦ embedded systems manufacturer
- ♦ internet and mobile application editors
- ♦ telecommunication network operators
- ♦ smart-city and smart-grid network providers
- ♦ artificial intelligence start-ups
- ♦ Security and Defense

Admission pathways and deadlines

Paris: Apply via <https://ai4ci.roc.cnam.fr/index.php/admission>

en bref

Responsable de la formation
Stefano Secci

Niveau d'entrée Niveau 6 (bac+3 et 4)

Lieu Centre Cnam Paris | Athènes (Grèce),
en partenariat avec le Collège René
Descartes

Tarifs Se rapprocher du centre Cnam Paris

Program M1		
UE	Course	ECTS
USEEN6	Artificial Intelligence and Machine Learning for Connected Systems	6
USEEN3	Operations Research	4
USEEN2	Operating Systems and Computer Architecture	6
USEEK7	Network security	6
USEES3	Distributed and Federated Learnings	5
USEEJ6	Network Architecture	6
2 US to choose		
USRS2H	Refresh in C & Bash Programming	3
USEES5	Sustainable IoT Technologies	3
USEES6	Next Generation IEEE 802.11 standards	3
USEES7	Data Management and Digital Transformation in Industrial Process Automation	3
USEES8	Big Data Technologies for Connected Industries	3
USEES9	Robot Predictive Maintenance	3
USRS78	Advanced Python Programming	3
USEET1	Integration of Virtual and Augmented Reality Technologies in Connected Industries	3

21 ECTS to choose		
USEET2	Complex Networks : Data Analysis and Network Science	6
USEEJ7	Performance Evaluation for Connected Systems	6
USEEN1	Cloud-native Infrastructure Security	6
USEET5	Datacenter Design and Operations	6
USEET6	Seminars from the Industry	3
USEET7	Ethics and Sovereignty of Digital Infrastructures	3
USEET3	Parallel and Distributed Systems	6
USEEJ9	FLE - French as foreign language	6
USEEJ8	Wireless Mobile Networks	6
USEES2	Control System Theory and Engineering	6

Program M2		
UE	Course	ECTS
USEET8	Reinforcement Learning	3
USEET9	Learning Robots	3
USEEU1	Robot Operating Systems	3
USEEW2	Generative Artificial Intelligence for Advanced Automation	3
2 US to choose		
USEEW1	Business Process Modeling	6
USEEW3	Industrial Internet of Things	6
USEEN5	Embedded Systems : Applications and Cybersecurity	6
USEET4	Peer-to-Peer Systems and Blockchain	5
USEEK8	Advanced Experimental Projects	6
USEEN4	Network Virtualization and Automation	6
USEEV6	Packet Switching and Processing Architectures	6
USEEU8	Smart Industry 4.0 Systems	3

15 ETCS to choose		
USEEJ9	FLE – French as foreign language	6
USEEU6	Applied Artificial Intelligence	3
USEEU7	WiFi and 5G Convergence in 6G	3
USEEU8	Smart Industry 4.0 Systems	3
USEEU9	Green AI Computing for Connected Industries	3
USEEV1	Communications for Precision Agriculture and Farming	3
USEEV2	Applications of AI and Cyber-threat Management	3
USEEV3	Programming and Communication of a Robotic Arm	3
USEEV4	AI4CI Activities : from research to business	3
USRS78	Advanced Python Programming	3
USEEV5	FPGA Platforms : Programmable Embedded Systems	3
UAEE2B	Master thesis – Internship	21

Volume horaire de référence (+/- 10%) :
6 ECTS = 50 heures