CentraleDigitalLab

SCIENCES, TECHNOLOGIES, SANTÉ

CentraleDigitalLab

Language(s)
English

Presentation

Centrale Méditerranée and 3IA Côte d'Azur join forces to offer a high-level professional training program in Artificial Intelligence and Data Science: the postgraduate Institutional Diploma CentraleDigitalLab, specialized in innovation and dedicated to the companies' digital transformation.

Objectives

The goal is to develop scientific skills (artificial intelligence, data science) and an innovation-oriented work methodology through a project-oriented pedagogy.

This one-year program is entirely taught in English, and aims to train professionals in digital innovation and transformation (AI project managers, data scientists, data analysts, etc.):
- Technical skills: Machine Learning, Data Science, Deep Learning
- Project skills: rapid prototyping, Agile methods, test-driven development, continuous integration, release management (git) and developer tools
- Soft skills: teamwork, direct customer relations and communication

The program begins with an intensive refresher period in mathematics and programming, followed by 3 weeks of courses in AI and Data Science, Agile methodology, etc. To enrich their experience, students in the program undertake:
- 2 projects with program partner companies
- An internship in France or abroad

A total of 60 ECTS credits are required to obtain the Institutional Diploma CentraleDigitalLab.

Skills

Organisation

Admission

Target

This high-level program requires **Master 2 level** (engineers, M2 scientists, business schools), and is accessible to GEC students by special dispensation from the jury.

Recommended prerequisites

A good grounding in object programming (Python) and algorithms is a prerequisite.

Useful info

CentraleDigitalLab

Contacts

Lead Instructor

Anne-Laure Mealier

✉ anne-laure.mealier@centrale-med.fr

Administrative contact

Graduate School

✉ digital-lab@centrale-med.fr

Campus

🏫 Nice

Program

Organization

The training program is divided into two phases:

Period 1: Active Learning
- Courses: Intensive courses to quickly gain skills
- Projects (30 ECTS): Each project is carried out by a team of 3 to 5 students over a sprint of 8 to 10 weeks, ending with a collective report and an oral defense. After the kick-off meeting, the students are in direct and regular contact with their client, a company asking them to respond to a transformation need or a technical challenge (artificial intelligence, connected objects, etc.)

The skills acquired at the end of Period 1 considering both of the projects and evaluated by the jury are:
o Technological innovation: model/design a solution or a prototype responding to a real problem
o Development: develop a computer program with an artificial intelligence or data science component
o Project management: manage a project in team using agile methods
o Communication: know

Skills are assessed according to the following progression: Novice, Intermediate, Competent, Advanced and Expert (skills framework distributed at the start of the session). Students must achieve the "competent" level or higher in each skill to obtain the 30 ECTS.

Phase 2 (30 ECTS): Internship in a lab or a company, in France or abroad, lasting 4 to 6 months.

The internship helps improve skills level.

	Nature	CM	TD	TP	Crédits
Period 1 - Lesson	BLOC				
Refresher Courses	BLOC				
Mathematics for AI	MODULE				
Web	MODULE				
Programming	MODULE				
Data analysis and visualisation	MODULE				
Theoretical training	BLOC				
IA and data sciences	BLOC				
Foundations of Machine Learning	MODULE	22h			
Deep Learning	MODULE	16h	14h		
Big Data	MODULE	9h	12h		
Quantum Computing	MODULE	8h			
Agile approach	MODULE	6h			
Soft skills	MODULE	14h			
Intellectual property and data governance	MODULE	3h			
Period 1 - Projects	BLOC				30 credits
Projet sprint 1	MODULE				

	Nature	CM	TD	TP	Crédits
Projet sprint 2	MODULE				
Period 2 - Internship	BLOC				30 credits
Stage	MODULE				30 credits