UniLaSalle
Earth & Sciences

2021 - 2022

Master of Science

AGRICULTURAL & FOOD DATA MANAGEMENT

CONFÉRENCE DES
GRANDES ÉCOLES

Rouen campus

Big data is revolutionizing modern companies in terms of management, research & development and marketing. Constantly evolving digital technologies are prompting the emergence of new approaches to agriculture, requiring new skills. The aim of the Master of Science in Agricultural & food data management is therefore to train up data scientists to meet agricultural and food industry challenges.

CONTEXT

Salima TAIBI
Accreditation to Supervise Research (HDR), PhD Professor in statistics Head of the MSc Agricultural & food data management

Jérôme DANTAN
PhD, Eng. Associate professor in computer science Deputy Program Head of MSc Agricultural & food data management

The focus is on acquiring and applying IT and data mining techniques in the field of research and in companies and organizations involved in creating intelligence for agriculture.

The program offers solid, future-oriented training, drawing on a multidisciplinary teaching approach, the extensive experience of program staff in internship supervision, and partnerships with several teaching and research institutions.

Our program enjoys the support of several academic and industry partners, including ACTA, Agro EDI Europe, NatUp, the Institute of Soil Science and Plant Cultivation (IUNG) in Pulawy (Poland), the Normandy Regional Chamber of Agriculture, Coop de France, Defisol, Inventiv IT, ISAGRI, MiXscience (Avril Group), Proagrica, Sodiaal, Seatech, OKP4.

SKILLS

01 Expertise in big data management, which has become a key factor in companies performance and growth.

02 Acquisition of IT and statistics techniques, data mining and machine learning applied to agriculture and the food industry in general, with a special focus on precision agriculture.

03 Developing a good command of statistics software and programming languages will be a real strength for students interested in research and development in areas such as plant nutrition and plant and animal epidemiology.
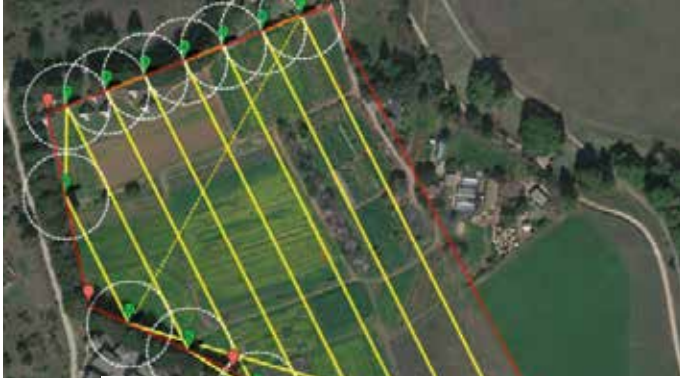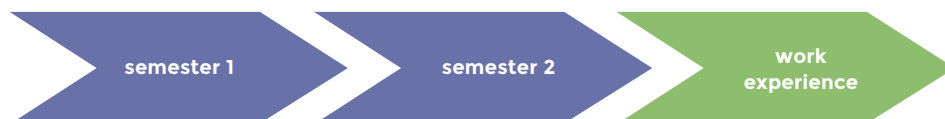
MSc Agricultural & food data management

COURSE STRUCTURE

The MSc is taught in English and lasts 18 months. It can also be proposed as a semester of study abroad

First semester: from October 4th 2021 to January 21th, 2022

Second semester: from February 1st to June 17th 2022

| semester 1 | semester 2 | work experience |

SEMESTER 1

Agriculture and Event of Big Data
An overview of Agriculture and IAA, Sources and reliability of Data in several agricultural sectors

Data Quality Management in Agriculture
Data cleaning, preprocessing, Sampling strategy for big data Applied statistics

Data Analysis Applied to Agriculture
Principal components analyses, Cluster analysis, Factorial analysis, Discriminant analysis, Software analysis (R, SPSS...)

Survey Methods
Methods for collecting data, Unstructured data, Multiple correspondence analysis, Survey data analysis, Text mining : social network analysis

Software Engineering
Software architectures, software development

IT Big Data Management I
Data sources in agriculture, Database design and modeling

Cross Fields
Project management, Sociology French language / English language

SEMESTER 2

Agriculture
Mechanised agriculture, Micro parcels experimental designs, Precision agriculture, Decision making tools Robotics

Machine Learning Methods
Cross validation method, Neural networks K-means, Regression trees, Bagging, Random forests Kernel methods, K-nearest neighbours method, Python software

IT Big Data Management II
Massive data processing, IT security

Quantitative Image Analysis
Signal image processing, Cartography learning Qgis software

Modelling
General linear method / linear method Time series modeling

Cross Fields
Digital Marketing, French Language (FLE)

Big Data Project
The project topic is suggested and led by a company, and supervision is provided by associate professors. Students create a decision-making tool for smart farming, build predictive models to limit disease outbreak, or design innovative software.

Careers

The program provides students with skills for which there is significant demand in the following sectors: agriculture, food industry, traditional commerce and e-commerce, consulting, retail, e-communication, IT, management, marketing and digital marketing, R&D and health-care, with salary prospects of over €50,000 per annum.

· Data scientist
· Chief data officer
· Master data manager
· Epidemiologist
· Data designer
· Research leader in agronomy
· Manager of animal health observatories
· Data/business analyst

Work experience

· Six-month placement under an internship agreement or professional training contract in companies such as NatUp, SODIAAL, Promize (ISAGRI), and Evolution XY, Agrial Maïsadour
· Two 4-week assignments set by companies and supervised by professionals

Credits

90 credits broken down as follows:
· 30 ECTS credits for the 1st semester
· 30 ECTS credits for the 2nd semester
· 30 ECTS credits for the internship and professional thesis

TESTIMONIALS

JEAN-MARIE SAVALLE, PRESIDENT OF ISAGRI

«Using new technologies to process data is a real challenge for the agricultural and food industries, in terms of traceability, strategic monitoring, competitiveness and innovation. The advent of digital technologies and big data are changing our approach to management and the development of new decision-making tools.
The training provided by the Master of Science in Agricultural and food data management, developed in conjunction with industry professionals, represents an opportunity for companies in the industry to benefit from talented individuals whose expertise will undoubtedly represent considerable added value.»

ESTELLE, STUDENT MSC 2018-2019

«I chose the MSc in Agricultural & Food Data Management to gain new skills and because this program covers the arrival of digital technologies and data processing in the agricultural sector. I've learned such a lot, including programming and statistics, and I particularly enjoy mixing with the international students. There was soon a great atmosphere and team spirit in our group. I'm an intern at Evolution, an animal genetics company based near Rennes. It is very rewarding and offers a different perspective on the skills developed in class. It has given me valuable practical experience!»

MICKAËL NABAT, HEAD OF BIG DATA DEVELOPMENT
PROAGRICA

«Making effective use of agricultural data is vitally important if we are to meet the societal challenges of this century. It is a key part of the strategies developed by companies in the industry. People with skills in management, data science and agronomy are a crucial link in the chain as they can help management teams to lead these new projects and provide support to those in the field. These new profiles need solid training that encompasses all these criteria.»

CHOOSE FRANCE

Discover the French "art de vivre" and gastronomy. Learn French, the world's most commonly spoken language by 2050 (Natixis 2018).

TRY NORMANDIE

Normandy: Top region to visit (Lonely Planet 2018).
Experience the vibrant city of Rouen, a safe city on a human scale with 43,000 Students and 5,000 International Students.

STUDENT LIFE

· Social event organized by French student and the International Department (Gala, Team building day, touristic stay)
· Several student organization on the campus.
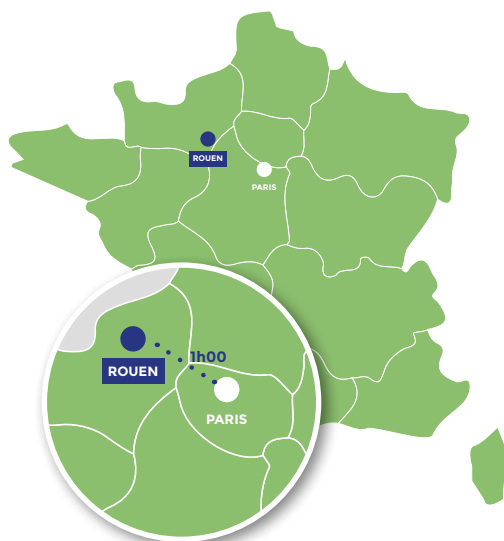
HEALTH & WELL-BEING

· Benefit from the excellent and free French healthcare system
· On campus psychological support team
· Disability friendly campus and personalized support
· University hospital within 15'

Admission

- General engineering degree
- Master's degree or equivalent
- Exceptionally, students with a Bachelor's degree or equivalent with professional experience
- Admission will be based on your application and an interview

Online application :
www.unilasalle.fr
www.international.unilasalle.fr

Start of term

October 4th 2021

Tuition and fees

18-mth conventional program: €8,490

18-mth Continuing education or apprenticeship program: €12,240

Living expenses 2020-2021
- Catering in canteen: €3.25/meal
- Insurance: €200/years
- Campus room: from €270 to €500/month
- Average cost of living: €650/month

Open days

Rouen Campus
December 5, 2020
February 6, 2021
March 6, 2021

CONTACTS

Rouen campus

3 rue du Tronquet - CS 40118
76130 Mont-Saint-Aignan

FRANCE
Alexandre Poinçon
Student Recruitment Officer
alexandre.poincon@unilasalle.fr

INTERNATIONAL
Anthony Voisine
Student Recruitment Officer
02 32 82 91 29 / +33 (0)7 61 00 75 44
anthony.voisine@unilasalle.fr

Engineering *a Bright Future* | UniLaSalle
Terre & Sciences

www.unilasalle.fr
http://international.unilasalle.fr/