Big Data & AI

Faculty of Engineering, Design and Computing, Department of Information Technology

When

6 February 2023 - 30 June 2023
Class days: 4 days (1 day off)

General Information

Audience: Bachelor ICT 3rd year with experience in programming.
30 European Credits (20 weeks)
Where: Haarlem, the Netherlands

Teachers

Teachers of the Information Technology study program (Haarlem) and guest lecturers from the research group (lectorate) Data Driven Smart Society provide lectures. Workshops and training sessions are provided by specialists from the field of big data and artificial intelligence.

About the course

The need for data scientists has grown exponentially over the past few years. While there are many Big Data or Data Science minors out there, this minor uniquely focuses on the interaction between the field of Data Science and Artificial intelligence and uses a software-oriented approach to solving 'wicked (data) problems'.

The core of the minor consists of a group project for an external client, which provides you the opportunity to work on real-life realistic problems.

Strategies and teaching activities

- Workshops by experts
- Do research with your project group
- Lectures on theory combined with practical exercises

Competences

Analysing
- Specifying a distributed computer system consisting of timing, resource usage and performance

Designing
- Designing a software system while taking into account existing components and libraries, while making use of design principles and/or quality criteria
- Designing a distributed computer system, including setting up actuators, sensors, timing, resource usage and performance

Realising
- Setting up an infrastructure that meets demands in terms of performance, usability, security and compliance
- Realising a public or private cloud-based infrastructure and services while taking note of all requirements

Goals

The student is able to:
- work on a data science driven research project
- create and train a machine learning model/pattern
- create an application to show the outcomes of the machine learning / deep learning models/patterns
- design and develop a highly scalable parallel distributed processing cluster of nodes
- cooperate with fellow students in software development activities
- effectively communicate with external clients

Contact

Sign up (deadline 30-11-2022)
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Questions
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Details of assessments

- Project assessment for Big Data & AI
- Project consisting of a written report, a code review and a presentation of the created application.
- Individual final assignment for Machine Learning, Deep Learning & Statistics (Data Mining)
- Individual final assignment for Big Data & AI Fundamentals
- Individual weekly assignments for Parallel Distributed Systems (Hadoop)
- Individual weekly assignments for Computer Vision

All assessments must be completed with a sufficient grade (55 or higher)