Vak: Programming 6 — credits: 5

Vakcode	BFVM25PROGRAM6
Naam	Programming 6
Studiejaar	2025-2026
ECTS credits	5
Taal	Engels
Coördinator	F. Feenstra

Werkvormen	Hoorcollege Opdracht Werkcollege
Toetsen	Programming 6 - Opdracht

Leeruitkomsten

- You will design, implement, and optimize scalable data processing pipelines using Snakemake and Dask, ensuring efficient resource usage and high performance for practical big data applications.
- You will build ML-OPS solutions following industry standards for code modularity, documentation, version control, and long-term maintainability, enabling effective collaboration and system reliability.
- You will critically analyze and compare different distributed computing frameworks, assessing their architecture and performance to select the most suitable framework for specific data and machine learning tasks.
- You will effectively communicate your technical solutions and design decisions related to distributed computing and ML-OPS, making them understandable to both technical and non-technical audiences.

Inhoud

This course builds on foundational concepts of distributed computing frameworks, such as Spark, job schedulers like SLURM, and distributed storage and batch processing systems like Hadoop.
In this course, you will explore additional essential tools for big data and distributed computing, including Dask and Snakemake. You will gain hands-on experience in using these tools to design and implement efficient, scalable solutions for big data and high-performance computing challenges. The course will also cover best practices for integrating machine learning into operational workflows (ML-OPS), ensuring robust and optimized performance.

Opgenomen in opleiding(en)

Master Data Sciences for the Life Science - 4 semesters

School(s)

Instituut voor Life Science & Technology

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