Vak: Data Science 5 — credits: 5

Vakcode	BFVM25DATASCNC5
Naam	Data Science 5
Studiejaar	2026-2027
ECTS credits	5
Taal	Engels
Coördinator	-
Werkvormen	Hoorcollege Opdracht Werkcollege
Toetsen	Data Science 5 - Computer, eigen organisatie

Leeruitkomsten

- You utilize an argumentative approach to select and apply appropriate supervised machine learning techniques and algorithms for a given problem in life science.
- You implement predictive machine learning algorithms for regression and classification in Python and evaluate their validity and effectiveness.
- You execute the general steps of the machine learning lifecycle, including data engineering, model selection, hyperparameter tuning, and model deployment, and apply them effectively to life science problems.
- You demonstrate knowledge and understanding of the challenges and limitations of supervised machine learning in the context of the life science problem at hand.

Inhoud

This course introduces the fundamental concepts and techniques of classical supervised Machine Learning and their applications in solving problems in different areas. The course begins with a repetition of linear regression, extending it to more general regression models. Subsequently, various classification methods are introduced, some of which are implemented extensively (e.g. Logistic regression, Naive Bayes, Decision trees) and some of which are covered more succinctly (e.g. k-Nearest Neighbor, Discriminant Analysis, Support Vector Machines). Finally some general topics and best practices are covered (e.g. ensemble learning, model evaluation metrics, feature selection, cross-validation, learning curve, and more).

Opgenomen in opleiding(en)

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