



Data Science: Machine Learning with Python (S70)

21 -25 July 2025

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Day	Time	Type	Description	Location
Monday	9.00-10.30	Lecture	Introduction to Machine Learning, exploratory data analysis, visualization	Utrecht Science Park Exact location to be announced
	10.45-11.45	Practical	Practical with Python on exploring datasets and visualization	
	11.45-12.15	Discussion	Discussion of the practical	
	12.15-13.45	Lunch	Lunch break	
	13.45-15.15	Lecture	Regression and feature processing, evaluation of regression	
	15.30-16.30	Practical	Practical on regression	
	16.30-17.00	Discussion	Discussion of the practical	

Day	Time	Type	Description	Location
Tuesday	9.00-10.30	Lecture	Classification models, evaluation of classification task, cross validation	
	10.45-11.45	Practical	Practical on a classification task	
	11.45-12.15	Discussion	Discussion of the practical	
	12.15-13.45	Lunch	Lunch break	
	13.45-15.15	Lecture	Tree based models	
	15.30-16.30	Practical	Practical on tree based models	
	16.30-17.00	Discussion	Discussion of the practical	

For information about the Social Programme, please visit the [Utrecht Summer School website!](#)



Day	Time	Type	Description	Location
Wednesday	9.00-10.30	Lecture	Introduction to neural networks	
	10.45-11.45	Practical	Practical for basic concepts of neural networks	
	11.45-12.15	Discussion	Discussion of the practical	
	12.15-13.45	Lunch	Lunch break	
	13.45-15.15	Lecture	Neural networks – part 2	
	15.30-16.30	Practical	Practical on neural networks	
	16.30-17.00	Discussion	Discussion of the practical	

Day	Time	Type	Description	Location
Thursday	9.00-10.30	Lecture	Dimensionality Reduction, clustering	
	10.45-11.45	Practical	Practical on clustering	
	11.45-12.15	Discussion	Discussion of the practical	
	12.15-13.45	Lunch	Lunch break	
	13.45-15.15	Lecture	Hidden Markov models	
	15.30-16.30	Practical	Practical on HMM	
	16.30-17.00	Discussion	Discussion of the practical	

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Day	Time	Type	Description	Location
Friday	9.00-10.30	Lecture	Active learning	
	10.45-11.45	Practical	Active learning	
	11.45-12.15	Discussion	Discussion of the practical	
	12.15-13.45	Lunch	Lunch break	
	13.45-15.15	Lecture	Fairness in Machine Learning	
	15.30-16.30	Practical	Practical about fairness in ML	
	16.30-17.00	Discussion	Discussion of the practical	