

MINI-SCHOOL

NITheCS

National Institute for  
Theoretical and Computational Sciences

# Introduction to Machine Learning

Prof Najmeh Nakhaeirad (University of Pretoria) and  
Dr Kabelo Mahloromela (University of Pretoria)

*Attend four online lectures:*

Wednesday, 8, 15, 22 & 29 April 2026 | 14h00-15h00 SAST

## ABSTRACT

Data science plays a crucial role in advancing scientific discovery, supporting informed decision-making, and enabling accurate predictions. This Mini-school introduces fundamental machine learning concepts, with all practical components implemented using the R programming language. Participants will be equipped with the skills to analyse, visualise, and model data through hands-on coding within a data science framework. By the end of the programme, participants will be well positioned as emerging data scientists, prepared to tackle real-world challenges using modern machine learning techniques.

## BIOGRAPHIES



Prof Najmeh Nakhaeirad is an Associate Professor in the Department of Statistics at the University of Pretoria and an NRF Y2-rated researcher. Her work combines statistics, machine learning, and artificial intelligence to address interdisciplinary challenges in public health, drug discovery, climate and environmental science, particularly within a One Health framework, as well as in renewable energy. She leads two research groups at the University of Pretoria, namely Machine Learning for Health Sciences and Advances in Directional Statistics. She has about 50 publications and an extensive record of postgraduate supervision and mentorship, including 4 completed PhDs and 34 completed MSc degrees. She is currently supervising 11 PhD candidates and 12 MSc students. She is also actively engaged in interdisciplinary collaboration and in delivering capacity-building workshops in machine learning and statistical methods.



Dr Kabelo Mahloromela is a lecturer in the Department of Statistics at the University of Pretoria. His research focuses on machine learning and statistical analysis, with a particular emphasis on spatial data in applications such as criminology, epidemiology, ecology, and human demography. He is a member of the SpatialLab@UP research group at the University of Pretoria and is actively involved in the supervision of postgraduate students. He has extensive experience teaching statistics at both undergraduate and postgraduate levels.

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