

University of Pretoria Yearbook 2022

Artificial Intelligence (II) 711 (COS 711)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	15.00
NQF Level	08
Programmes	BSchHons Computer Science
Prerequisites	No prerequisites.
Contact time	2 lectures per week
Language of tuition	Module is presented in English
Department	Computer Science
Period of presentation	Semester 1 or Semester 2

Module content

This module focuses on two Computational Intelligence paradigms, namely Artificial Neural Networks and Deep Learning. Within the Artificial Neural Networks paradigm, algorithmic models of neural learning will be studied, including supervised, unsupervised, and reinforcement learning. Aspects that influence the performance of artificial neural networks will be studied in depth. Within the Deep Learning paradigm, algorithmic models of deep neural networks will be studied, including autoencoders, convolutional neural networks, long-short term memory networks, generative models and attention mechanisms. Prior knowledge assumed includes good programming skills and an undergraduate module in calculus.

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