ARTIFICIAL INTELLIGENCE

UCT FACULTY OF SCIENCE

AI (Artificial Intelligence) is an exciting new major offered by the Department of Computer Science at UCT, supported by the expertise of faculty in this area. This major will provide a strong educational foundation for students wanting to pursue AI as a career.

WHICH COURSES WILL YOU TAKE?

1ST YEAR COURSES
- Computer Science 1015
  algorithm development and problem solving in Python
- Computer Science 1016
  object-oriented design and programming in Java
- Mathematics 1

2ND YEAR COURSES
- Computer Science 2001
  Data structures, databases
- AI1: Knowledge Representation 2041
  fundamentals of knowledge representation and reasoning
- AI2: Machine learning 2042
  machine learning algorithms in Python
- Maths 2
  Calculus and Linear algebra

3RD YEAR COURSES
- Automated Planning & Control - CSC3041
  introduction to problem solving by searching
- Deep Learning - CSC3042
  modern practical deep neural networks
- Reasoning in AI - CSC3043
  a selection of advanced topics in AI reasoning
- AI Systems CSC3044S
  an overview of agent architectures, capstone project

For a BSc degree, students will also pick a **co-major** in another area.
The AI major is designed to be done as a co-major with either Computer Science, Mathematics or Mathematical Statistics; and other options are possible.

WHO SHOULD DO THIS MAJOR?
Students with good mathematical ability and a strong interest in a career that contributes to this rapidly evolving field.

CAREER OPPORTUNITIES
Graduates of with a major in AI will possess a deep understanding of the foundational principles, regulations, and practical applications of artificial intelligence. Equipped with this knowledge, they will be well-prepared to navigate and contribute to the dynamic landscape of AI-driven industries.
From developing innovative algorithms to ensuring ethical and regulatory compliance, our students will be empowered to make meaningful contributions across a wide range of fields, including: technology, healthcare, finance, and entertainment.
With the demand for AI expertise on the rise, our graduates will find themselves at the forefront of the advancements, with the potential to shape the future of AI industries and society as a whole.

MINIMUM ADMISSION AND SUBJECT REQUIREMENTS
FPS of 550 (but admission only guaranteed at FPS above 660)
Mathematics 70% & Physical Science 60%
NBT in Mathematics, AL & QL to be written