



# BACHELOR OF ENGINEERING IN ARTIFICIAL INTELLIGENCE (HONOURS)

KPT/JPS [N/481/6/0826] 07/27 [MQA/PAI3687]

## DURATION

4 years

## INTAKE

February/April/September

## MEDIUM OF INSTRUCTION

English

## ABOUT THE PROGRAMME

Artificial intelligence is an interdisciplinary field, covering disciplines like programming of intelligence, functionality of brain and industrial intelligence application. Currently, all the giant Internet companies are competing for the advantages of artificial intelligence applications. There exists a huge demand for intelligence system programmers and designers. The involved domains include almost every aspect of modern life.

It is well-known that China is one of the leading countries in artificial intelligence, no matter in the field of research or industrial application. Xiamen University (XMU) has a very strong faculty in intelligence science with more than 23 academic staff. It is ranked among the top ten in China and offers a variety of courses in the theories and industrial applications of artificial intelligence. The faculty has produced a number of world-class researchers such as Ji Rongrong (纪荣嵘), who conducts many breakthroughs in computer vision.

With the balance between theories and practices, our programme at XMUM equips graduates with the necessary knowledge and skills to manage the development and research of computer and intelligence systems through outstanding teaching and research activities in an exciting environment. Besides, we are dedicated to training our students' skills in analytical thinking, problem solving and management, which enables them to adapt to the ever-changing world. Those who would like to pursue further study in this area can also apply for post-graduate programmes at XMU.

## PROGRAMME HIGHLIGHTS

- AI techniques and trends bring about many highly paid IT positions, ensuring graduates a promising career.
- Excellent educational resources from one of the most highly-respected and longest-established institutions in China for AI study.
- A strong curriculum emphasizing both theoretical teaching and practical training, not only equipping graduates with disciplinary knowledge, but also training their skills in analytical thinking, problem solving and management.

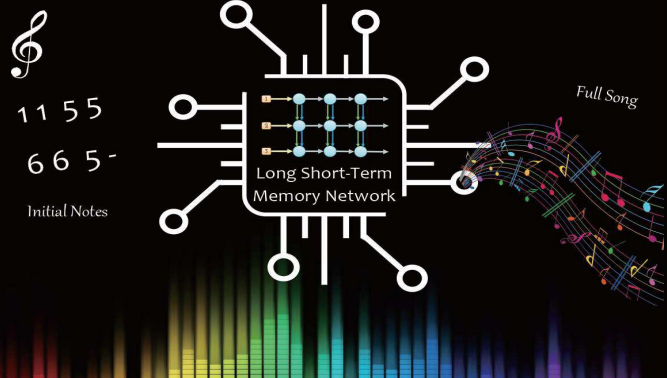
## CAREER OPPORTUNITIES

The possible career pathways are as follows.

- **Engineers in:**
  - IT Department in any companies, government agencies and NGOs.
  - Internet giant companies (e.g. Alibaba, Tencent, Facebook, etc.).
  - Promising start-up (e.g. ByteDance)
  - Medium-scale software companies.
  - Any other IT companies.
- **Researchers in:**
  - Universities and other educational institutions.
  - Research institutions.
  - Research department in any companies, government agencies and NGOs.
  - Research & Development Office in finance company

# Music Composer Powered by AI

XMUM course project by Huang Chonghao and Wang Jiarui



XMUM students won the Grand Prize in the 1<sup>st</sup> China College Students' "AI+" Innovation and Entrepreneurship Competition (2019)

## ENTRY REQUIREMENTS

<b>STPM</b>	Pass Sijil Tinggi Persekolahan Malaysia (STPM) in science stream or equivalent with at least grade C in Mathematics and one Science/ ICT subject.
<b>A-Level</b>	Pass A-Levels with at least Grade D in 2 subjects and pass SPM or equivalent with a credit in Advanced Mathematics.
<b>UEC</b>	Pass Unified Examination Certificate (UEC) with at least Grade B in 5 subjects including Advanced Mathematics.
<b>Foundation/ Matriculation</b>	Pass Matriculation/Foundation from any Higher Education Providers with a CGPA of at least 2.0 and credit in Advanced Mathematics subject or Mathematics and one Science/ Technology/ Engineering subject in SPM level or equivalent
<b>SAM</b>	Pass South Australian Matriculation (SAM) with at least Tertiary Entrance Rank (TER) 70 and Grade B in 2 relevant subjects including Advanced Mathematics.
<b>CPU</b>	Pass Canadian Pre-University (CPU) with an average of 70% in 6 relevant subjects including Advanced Mathematics.
<b>Diploma</b>	Pass ICT related Diploma (Level 4 MQF) with a CGPA of at least 2.5.

\*For other equivalent qualifications, please consult our programme counsellor.

## MAIN COURSES

### ARTIFICIAL INTELLIGENCE:

- Applied Machine Learning
- Principles of Artificial Intelligence
- Methods and Applications of Deep Learning
- Natural Language Processing
- Computer Vision and Robotics
- Advanced Machine Learning
- Statistical Learning
- Advanced Issues of Artificial Intelligence
- Probabilistic Graph and Agents
- Frontiers of Artificial Intelligence
- Industrial Intelligence Application
- Robot Kinematics and Dynamics

### Deep Reinforcement Learning and Control

- Computational Cognitive Science
- Strategic Reasoning for AI
- Planning Techniques for Robotics
- Advanced Data Analysis

### PROGRAMMING:

- Python and Tensorflow Programming
- Programming Language C
- Object-Oriented Programming-C++
- JavaEE (Programming Elective)

### COMPUTER SCIENCE:

- Discrete Mathematics
- Data Structures

### Design and Analysis of Algorithms

- Principles of Operating Systems
- Software Architecture and Development Environment
- Computer Architecture
- Principles of Computer Composition
- Compiler Principles and Language Parser
- Computer Networks and Communication
- Software Engineering
- Digital Signal Processing
- Computer Graphics
- Digital Signal Processing
- Computer Graphic

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The information in this brochure is correct at the time of publication. Xiamen University Malaysia (XMUM) reserves the right to change the information in line with updates from time to time. Please check the website (www.xmu.edu.my) for latest information.

May 2020