The Master of Technology in Knowledge Engineering programme has prepared me both in terms of technical capability and business thinking, and it has helped me to kickstart a rewarding and fruitful career in Data Science!

David Low, Singapore
Data Chief Scientist and Co-Founder, Pand.ai Singapore
Master of Technology in Knowledge Engineering (M Tech KE)*
Class of 2016
* The M Tech in Intelligent Systems is a new programme that replaces the M Tech in Knowledge Engineering.

Other Graduate Programmes by NUS-ISS

Master of Technology in Enterprise Business Analytics
Available as Stackable Certificate Programme in Business Analytics

Master of Technology in Software Engineering
Available as Stackable Certificate Programme in Software Engineering

Graduate Diploma in Systems Analysis
Available as Stackable Certificate Programme in Digital Solutions Development

About the Institute of Systems Science (NUS-ISS)
Established in 1981, the Institute of Systems Science at the National University of Singapore (NUS-ISS) develops digital talent for the industry through graduate education, professional development programmes, consultancy, applied research and career services. NUS-ISS is widely recognized as a champion of the national SkillsFuture movement, enabling a digital economy that is always learning and always leading.

NUS-ISS has implemented a unique portfolio of multiple learning pathways, with a wide spectrum of programmes in critical industry disciplines such as software development, data science, artificial intelligence, cybersecurity, smart health, digital government and digital innovation.

To date, over 120,000 infocomm & business professionals, 6,800 corporate customers and 5,500 post-graduate alumni members have benefitted from NUS-ISS’s suite of services. Its programmes are delivered by ISS staff with an average of more than 20 years of industry experience.

Institute of Systems Science National University of Singapore 25 Heng Mui Keng Terrace, Singapore 119615
http://www.iss.nus.edu.sg (65) 6792 2093  isspostgrad@nus.edu.sg facebook.com/iss.nus linkedin.com/company/iss.nus
The NUS Master of Technology in Intelligent Systems programme provides you with the concepts, techniques and methods of Artificial Intelligence, and their application to the development of Intelligent Systems applications.

The programme inculcates the essential knowledge and practical skills needed for students to lead the development of Intelligent Systems that provide effective and optimal business solutions for their organisations.

Programme Delivery

M Tech IS candidates must successfully complete 2 mandatory topics from the fundamental areas, any 2 of 4 topics from specialist areas as well as complete a capstone project. Students are evaluated through a combination of coursework, project work and examinations.

**Recognition:**
- Top student is awarded the SPH Award and Prize
- Best Project Prize

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**Learning Outcomes**
- Acquire the skills needed to be part of a team building intelligent systems capable of problem solving across varied business and scientific/engineering domains.

**Job Roles**
- Artificial Intelligence Engineers
- Intelligent Systems Developers
- Cognitive Systems Developers

**Learning Outcomes**
- Acquire the skills to be part of a team building intelligent robotic and sensor-driven systems that utilise the latest machine learning and sensor signal processing techniques.

**Job Roles**
- Pattern Recognition Systems Developers
- Machine Learning Application Specialists
- Deep Learning Application Developers

**Learning Outcomes**
- Acquire the skills needed to build advanced robotics and automation systems required for Industry 4.0. These include designing cooperative robot systems and developing mobile and autonomous systems.

**Job Roles**
- Robotic System Developers
- Human-Robot Collaboration Specialists
- Robot Personal Assistant Developers

**Capstone Project for Intelligent Systems**
Student projects for M Tech IS students include 3 months of full-time engagement with the industry for full-time students, and 6-12 months for part-time students. Students are allowed to conduct their project as a team-based internship, if desired. The expected commitment for the project is a minimum of 30 man-days per team member.

**Learning outcomes:**
- Conduct requirements analysis using a structured approach
- Produce high-quality intelligent systems following industry’s best practices and methodologies
- Become proficient in the use of knowledge and data engineering tools and techniques in order to deliver optimal business value
Who Should Apply

- Software developers, business analysts, domain experts, scientists, and engineers, who wish to be able to design and build systems that utilise Artificial Intelligence and other Smart Systems techniques.
- Professionals who are in, or are looking to enter, the following careers:
  - Artificial Intelligence Specialist
  - Machine Learning Specialist
  - Intelligent Systems Specialist
  - Robotic Systems Developers
  - Big Data Developers
  - Autonomous Vehicle Systems Developers
  - Vision and Sensing Systems Developers
  - A.I. Business System Developers
  - Intelligent Process Automation Developers
  - Intelligent Healthcare System Developers
  - Smart City Applications Developers
  - Language System Engineers
  - Text Mining / Analytics Specialist

Admission Criteria

- Bachelor’s degree preferably in Science or Engineering and a grade point average of at least B
- Proficiency in the English Language (written and spoken)*
- Have passed an entrance test
- Preferably two years relevant working experience
- IT, engineering and scientific professionals preferable
- Candidates with relevant IT degrees, with good academic records and good practical software development knowledge, may be granted a work experience waiver
- Have received a favourable assessment at admissions interview conducted by NUS-ISS

*Applicants whose native tongue and medium of university instruction is not in English should submit your TOEFL or IELTS score as evidence of your proficiency in English

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<th>TOEFL</th>
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<td>Paper-based test (580)</td>
<td>Result of 6.0</td>
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How to apply?

All applicants are required to apply online via the Graduate Admission System (Coursework). Come find out more about the MTech programmes at our Info sessions.

Visit [www.iss.nus.edu.sg/graduate-programmes](http://www.iss.nus.edu.sg/graduate-programmes) for more details. We conduct in-country entrance tests and interviews in selected countries.

Semester 3  
Intelligent Sensing Systems  
NICF - Vision Systems (SF)  
Spatial Reasoning from Sensor Data  
Speech and Sound Sensing Systems  
Graduate Certificate in Intelligent Sensing Systems

Semester 2  
Intelligent Software Agents  
Intelligent Process Automation  
Software Agents  
Self-Learning Systems  
Graduate Certificate in Intelligent Software Agents

Semester 4  
Practical Language Processing  
NCF - Text Analytics  
NCF - New Media and Sentiment Mining (SF)  
NCF - Text Processing using Machine Learning (SF)  
Conversational Interfaces  
Graduate Certificate in Practical Language Processing

Capstone Project (Part-time, 6 - 12 months)

Learning Outcomes
- Acquire the skills needed to build intelligent systems that can reason and make decisions based on visual, audio and speech inputs. Examples include crowd monitoring, facial recognition, medical sensing, robot and vehicle control.
- Job Roles
  - Vision System Developers
  - Sensor Processing Specialists
  - Smart City Application Developers

Learning Outcomes
- Acquire the skills necessary to build intelligent software agents that can act on behalf of humans in commercial and business transactions, as well as automate business processes.
- Job Roles
  - A.I. Business System Developers
  - Intelligent Process Automation Developers
  - Intelligent Personal Assistant Developers

Learning Outcomes
- Acquire advanced skills in practical language processing. This includes text analysis, text analytics, deep learning techniques and their application in sentiment mining and building chatbots.
- Job Roles
  - Language System Engineers
  - Text Mining/Text Analytics Specialists
  - Chatbot System Developers

Stackable Certificate Programme in Intelligent Systems

The Master of Technology in Intelligent Systems is also available as Stackable Certificate Programme in Intelligent Systems. With this programme, Professionals, Managers and Executives (PMEs) can attain a series of NUS-ISS graduate certificates over a period of five years without disrupting your careers. You will have the flexibility of studying at your own pace by taking the required modular courses that make up the certificates to meet your needs. PMEs who do not wish to attain a certificate, graduate diploma or degree can continue to attend individual modular courses thus allowing you to gain the skills to meet your career needs.

Visit [www.iss.nus.edu.sg/stackable-programmes](http://www.iss.nus.edu.sg/stackable-programmes) to find out more.