TRANSFORM INDUSTRIES WITH ARTIFICIAL INTELLIGENCE

Master of Technology in Intelligent Systems

Available as
Stackable Graduate Certificate Programme in Artificial Intelligence

Master of Technology in Intelligent Systems

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

MTech IS candidates must successfully complete 2 mandatory graduate certificates from the fundamental areas, 2 of 4 graduate certificates from the specialist areas as well as complete a capstone project. Students are evaluated through a combination of course work, project work and examinations.

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

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
  - Smart City Applications Developers
  - Text Mining / Analytics Specialist

  - Autonomous Vehicle Systems Developers
  - Vision and Sensing Systems Developers
  - A.I. Business System Developers
  - Intelligent Process Automation Developers
  - Intelligent Healthcare System Developers
  - Language System Engineers

How To Apply

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

Visit **www.iss.nus.edu.sg/graduate-programmes** for more details. We conduct in-country entrance tests and interviews in selected countries.

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 & 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 their TOEFL or iELTS score as evidence of the proficiency in English

TOEFL	IELTS
• Paper-based test (580) • Computer-based test (237) • Internet-based test (85)	• Result of 6.0

	Semester 1	Semester 2	Semester 3		Semester 4	Part-time
	Semester 1		Semester 2			Full-time
	Fundamental Areas		Specialist Areas			
	Intelligent Reasoning Systems	**Pattern Recognition Systems**	**Intelligent Sensing Systems**	**Intelligent Software Agents**	**Practical Language Processing**	**Intelligent Robotic Systems**
	Machine Reasoning	Problem Solving using Pattern Recognition	Vision Systems	RPA and IPA: Strategy and Management	Text Analytics	Robotic Systems
	Reasoning Systems	Intelligent Sensing and Sense Making	Spatial Reasoning from Sensor Data	Software Robots - Best Practices	New Media and Sentiment Mining	Autonomous Robots & Vehicles
	Cognitive Systems	Pattern Recognition and Machine Learning Systems	Real Time Audio - Visual Sensing & Sense Making	Intelligent Process Automation	Text Processing Using Machine Learning	Human-Robot System Engineering
				Self-Learning Systems	Conversational UIs	
	Graduate Certificate in Intelligent Reasoning Systems	**Graduate Certificate in Pattern Recognition Systems**	**Graduate Certificate in Intelligent Robotic Systems**	**Graduate Certificate in Intelligent Sensing Systems**	**Graduate Certificate in Intelligent Software Agents**	**Graduate Certificate in Practical Language Processing**

← Capstone Project (Full-time) →

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

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.	**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.	**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.	**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.	**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.	**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 • Artificial Intelligence Engineers • Intelligent Systems Developers • Cognitive Systems Developers	**Job Roles** • Pattern Recognition Systems Developers • Machine Learning Application Specialists • Deep Learning Application Developers	**Job Roles** • Vision System Developers • Sensor Processing Specialists • Smart City Application Developers	**Job Roles** • A.I.Business System Developers • Intelligent Process Automation Developers • Intelligent Personal Assistant Developers	**Job Roles** • Language System Engineers • Text Mining/Text Analytics Specialists • Chatbot System Developers	**Job Roles** • Robotic System Developers • Human-Robot Collaboration Specialists • Robot Personal Assistant Developers

Capstone Project for Intelligent Systems

Student projects for MTech IS students include 5 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 60 man-days per team member.

Learning outcomes:
- 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

Stackable Graduate Certificate Programme in Artificial Intelligence

The Master of Technology in Intelligent Systems is also available as Stackable Graduate Certificate Programme in Artificial Intelligence. 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 have the flexibility of studying at your own pace by taking the required modular courses that make up the graduate certificates to meet your needs. PMEs who do not wish to attain a graduate 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** to find out more.

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MTech IS focuses on learning and developing state-of-the-art AI algorithms and emphasises heavily on practical application, creating end-to-end solutions for customers.

Pamela Lin
Senior Engineer (Advanced Data Analytics) at Infineon Technologies
Master of Technology in Intelligent Systems,
Class of 2021

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The Master of Technology in Intelligent Systems programme covers a wide variety of technologies and techniques, and provides a comprehensive understanding of big data, data warehousing, processes and database design – skills that are essential to any data professional.

Tan Ren Jie
Senior Algorithm Engineer, Shopee
Master of Technology in Intelligent Systems,
Class of 2020

Other Graduate Programmes by NUS-ISS

Master of Technology in Enterprise Business Analytics	**Master of Technology in Software Engineering**	**Graduate Diploma in Systems Analysis**
Available as **Stackable Certificate Programme in Business Analytics**	Available as **Stackable Certificate Programme in Software Engineering**	Available as **Stackable Certificate Programme in Digital Solutions Development**

About NUS-ISS

Established in 1981, NUS-ISS nurtures digital talent for the industry through graduate education, executive education programmes, consultancy, applied research, and career services. NUS-ISS guides individuals and organisations to bridge future opportunities through a unique portfolio of multiple learning pathways such as blended learning and stackable programmes, leading the way in shaping the next curve of digital excellence.

It offers a wide spectrum of programmes in critical industry disciplines, such as digital leadership, software development, data science, artificial intelligence, cybersecurity, product management, smart health and digital innovation.

To date, over **166,000** digital leaders & professionals, **8,060** corporate clients organisations and **7,600** graduate programmes alumni have benefitted from NUS-ISS' suite of services.