

The NUS Computer Engineering programme gives our graduates the flexibility of building a career in the IT industry or in other allied sectors. Past graduate employment surveys have consistently shown that computer engineers have some of the highest employment rates and best starting pays among all graduates. Some of the exciting companies that our graduates work in are Accenture, **Barclays Capital, DSO National** Laboratories, Facebook, Google, Lucasfilm, Microsoft.

The march of technology and how it impacts human society is very strongly entwined in how software and hardware work together seamlessly. And for that, a strong and rigourous understanding of both realms is fundamental. The NUS Computer **Engineering programme** is unique with its rigour in combining computer science and electrical engineering, which prepares graduates to contribute towards realising and innovating in a device and computational rich and connected world.

#### **Harish Pillay**

Global Head, Community Architecture & Leadership, Red Hat APAC Pte Ltd

### **ADMISSIONS REQUIREMENTS**

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Qualifications	Requirements
Singapore-Cambridge 'A' Levels	H2 Mathematics, and H2 Physics* or H2 Chemistry or H2 Computing
International Baccalaureate Diploma	HL Mathematics, and HL Physics <sup>#</sup> or HL Chemistry or HL Computer Science

\* Students without H1 or H2 Physics need to have O Level Physics or equivalent and will be required to take Physics bridging modules.

<sup>#</sup> Students without HL Physics need to have SL Physics or O Level Physics or equivalent and will be required to take Physics bridging modules.



Applicants presenting accredited diplomas from a polytechnic in Singapore may also apply. For polytechnic and NUS High School graduates, as well as other qualifications, scan the QR code for more details.



**NUS Electrical & Computer Engineering** 

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# **COMPUTER** ENGINEERING



**Programme Brochure** 



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Technology is an integral part of our lives, and NUS Computer Engineering prepares our graduates to embark on a lifelong journey in designing computing systems for a smarter world.

Computer engineers introduce greater intelligence in increasingly smaller but more powerful devices; from the ubiquitous smartphone to the myriad networked electronic systems in a modern car, to industrial control systems that power economies.

Computer engineering is a multidisciplinary programme, transcending the traditional boundaries of computer science and electrical engineering. Computer engineers have a balanced education in electrical engineering, software design and hardware/software integration. Students get to be involved in many aspects of computing, from component-level circuit design to large-scale integration involving intelligent systems; energy management, monitoring and supervision; and information processing systems and communications. 10 1 0 0 10 1 0

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## **CONCENTRATION** AREAS -----

#### **Communications & Networks**

Learn about wireless and wired networks, e.g., optical networks, and networked devices and protocols, such as the Internet of Things.

#### **Embedded Computing**

Focus on embedded systems that are tiny computers in everyday objects such as smart watches, autonomous vehicles, and drones.

#### Large-Scale Computing

Concentrate on cloud computing and high performance computing such as big data analytics and databases.







#### Intelligent Systems

Covers machine learning, robotics and artificial intelligence. including video, image, text and language understanding.

#### **Interactive Digital Media**

Learn about multimedia, graphics and animation, computer games and human-computer interaction.

#### System-On-A-Chip-Design

#### Design of low-power integrated circuits with multiple functions, which forms the main chip in advanced devices such as smartphones.



### Internet of Things (IoT)

IoT provides the backbone for implementing Smart Nation developments in Singapore and worldwide, pervading the environment, cities, and factories of the future. By acquiring skills in computing hardware and software, data analytics, networking and communications, and cybersecurity, you will be well-positioned to contribute to these transformations, which has tremendous growth in job opportunities.

### **SPECIALISATIONS**

#### **Minor in Data Engineering**

Data engineers build tools, infrastructure, frameworks and services which allow them to tease insights from the myriad of data streams being generated. The main aim of the Minor is to train graduates with the ability to handle and manage the large volume of data generated by industry and glean actionable insights from that data.



#### **Robotics**

Artificial Intelligence has taken robots to unprecedented heights to augment humans in handling highly complex activities. Robots are now seeing rapid deployment in industrial automation, transportation, medicine, and elderly care, as well as in entertainment and service sectors. Students who undertake this specialisation will have the opportunities to work on real-world robotics applications in areas such as manufacturing, transportation, and healthcare.

