The Call Of
Computing & IT

Stepping Into A **Digital Future**

Facts and **Figures**

- According to Statista, as of 2017, there are approximately 3.58 billion internet users worldwide. The figure will rise as more countries increase internet coverage, which means there will be an increasing need for computing and IT experts.

- Cloud computing is growing fast. According to Forbes, expenditure on cloud computing has increased by 4.5 times compared to the spending on IT since 2009.

- Between 2015 and 2020, the expenditure on cloud computing will grow approximately 6 times more than the rate of IT spend.

- According to the US Bureau of Labor Statistics, most of the largest STEM occupations were related to computers and information systems. With employment of nearly 750,000, applications software developers was the largest STEM occupation.

Sources: www.bls.gov

Interesting **Titbits**

01 Good Salaries

The world of computing and IT is expanding fast, which means computer scientists and IT experts are in high demand. A computer programmer with experience in the US typically earns up to USD54,072 annually, according to CareerExplorer.com.

02 The first mouse was made of wood

Believe it or not, the original mouse was a bulky box built in 1964 by engineer **Douglas Engelbart**, completely made out of wood!

computinghistory.org.uk

03 Supercomputers

The most powerful computers of the day have typically been called supercomputers. Though historically their use was limited to government-sponsored research, such as nuclear simulations or weather modelling. Today we apply most of these computational techniques in laptops and desktops.
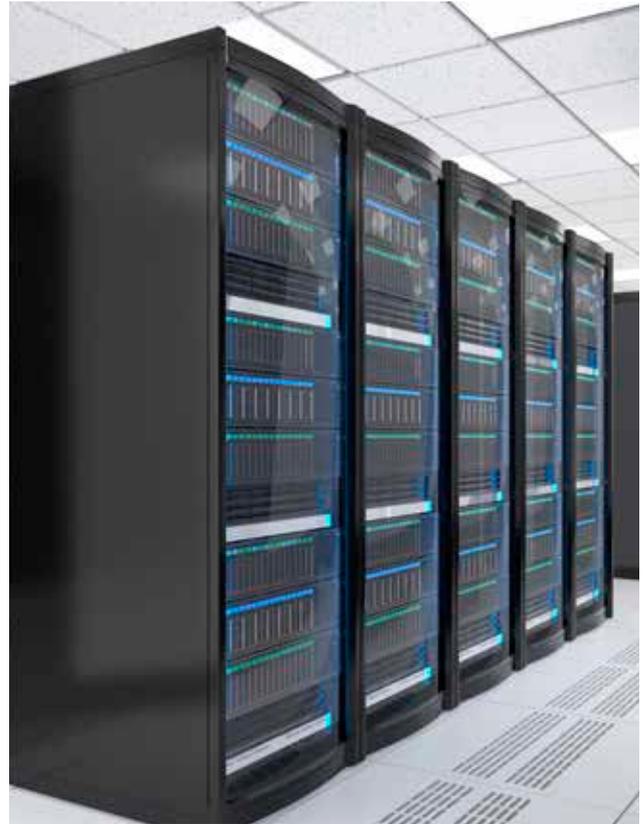
04 Wonder why the @ symbol is used in email addresses?
Simply because it is a lesser used icon on the keyboard!

05 Cut and Paste: The time-saving invention

The function was developed in 1981, by **Larry Tessler**, who was an engineer. The invention helped save lots of time and effort of retyping.

Larry Tessler

Source: en.wikipedia.org/wiki/Larry_Tesler

Career
Prospects

Here are some of the career options to choose from after you've graduated in computing or IT:

- Software Engineer

- Web Developer

- Cybersecurity Analyst

- Database Analyst

- Java Programmer

- Network Engineer

- Database Administrator

- Software Developer

- Quality Engineer

- System Analyst

Other **Career Options**

This industry is no longer restricted to specific fields, which means graduates of these programmes can branch out to many other industries. Check out the other career options available:

1 **Games Development**
- Computer Games Developer
- Desktop Software Programmer

2 **Education**
- Computer Science Educator

3 **Engineering**
- Network/Software Engineer

4 **Aerospace**
- IT Specialist

The World of Computing

01 Computing is concerned with the understanding, design, implementation and exploitation of computation, and computer and communication technology. Computing is broadly categorised into four (4) major disciplines: computer science, software engineering, information technology and information systems.

02 The language of programming is the same across the globe, making IT skills highly transferable between industries. Programming skills and the ability to learn new programming languages is very important in computing.

Source: Computing Programme Standard

03 Developing specific skills by putting in extra effort into gaining particular expertise will give you the push in career progression. It is also useful to be good in critical thinking and problem-solving.

04 Having a Computing degree enables students to learn and understand technology and be a part of its contribution to shaping the world.

Source: Computing Programme Standard

Computing Industry Worldwide

Computer Science •

Information Technology •

Software Engineering •

Information Systems •

Software Engineering and Information Systems

Living in the Digital Age, computers take up a big part of our lives. They speed up tasks, save data and ease communication. This makes them an ideal medium to carry out various jobs in industries such as healthcare, engineering, education, and hospitality, bringing a huge change in the ways humans communicate, create and share information.

The computing industry is booming, with its role gaining high importance in nearly every industry. Here's how you differentiate computer science, software engineering information technology and information system.

- Software engineers perform and manage activities at every stage of the lifecycle of large scale software systems and become specialists in designing and implementing software.

- Information technology professionals work effectively at planning, implementing, configurating and maintaning of an organisation's computing infrastructure.

- Information systems specialists analyse information requirements and business processes.

- Computer scientists work in a broad range of positions involving tasks from theoretical work to software development and can adapt to innovations in ICT.

Source: Computing Programme Standard

Computing Industry in **Malaysia**

- The nation is catching up with computing. It may be challenging, but students who enjoy solving complex computing problems will find it an intriguing learning process.

- Computing also involves learning new languages in the world of computing, and they are not the spoken kinds!

- There are plenty of job opportunities involving computing in Malaysia. In fact, the elements of computing are injected in many services such as the LRT system, local car-hailing applications, hospital MRI scans and many more, giving plenty of career opportunities to graduates of a computing programme.

- For SPM leavers, it takes about 4 to 5 years to complete a degree in computing or IT.

Source: www.nst.com.my/opinion/columnists/2018/04/361464/smarter-system

Know Your **Roles**

01 Software Developer

A software developer is in charge of developing, testing and maintaining a software programme. They must be creative in the technical field and are able to solve problems quickly with a unique approach.

02 Database Administrator

Analysing and evaluating data needs of users are second nature of database administrators. To develop data resources, storing and obtaining information, they also need to be good problem-solvers.
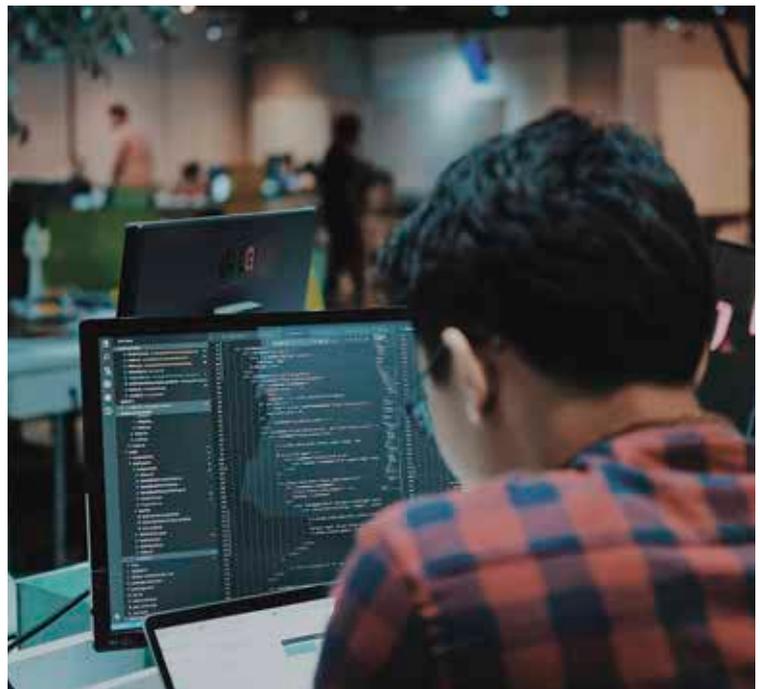
03 Web Developer

They will evaluate users' needs for information-based resources by developing a website's technical structure. They also have to ensure that the web pages are made accessible across a variety of browsers and interfaces.

04 Computer Systems Analyst

A computer systems analyst evaluates the computer systems of a company, advising and providing options in applying specific changes to the software, ultimately enhancing efficiency. Strong interpersonal skills, curiosity and a love for learning are essential traits to have.
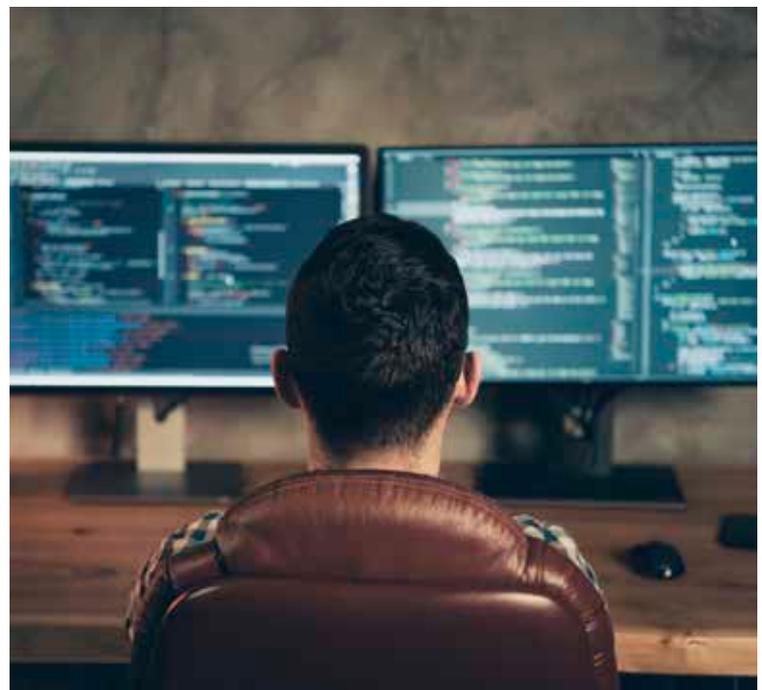
The Future of Computing

Certain technological breakthroughs allow machines and devices to 'communicate' and send commands to each other, such as using handphones to control the refrigerator, lights, vacuum cleaners and home security systems. The endless possibilities of what these technologies can do is a reminder on how the future of computing and IT greatly impact our lives.

Promising future of prosthetics ●

Infusing computing in lives ●

Cloud computing takes over ●

Promising Future Of Prosthetics

The way prosthetics or artificial body parts function is now reimagined with the concept of brain-computer interface (BCI) integrated with it. BCI assists in the direct collaboration between the brain and a device that sends signals from the brain. The direct communications pathway allows the signals sent to control a prosthetic limb. Imagine having prosthetics carrying out the tasks set by the brain, and in return, the prostheses are capable of sending a message back to the brain saying that they have touched or grasped an item. How convenient the lives of prosthetics users have become!

Infusing Computing In Lives

Quantum computers encode information, turning them into quantum bits or qubits that coincide. These qubits function as computer memory and processor in the forms of atoms and molecules that allow work to be done faster with more accuracy and precision. With quantum computing, the injection of physics into computing will be a breakthrough to computer science as computers can soon exist in an atom-sized form. By having patients take ingestible devices in the size of regular pills that can detect certain illnesses in the body, doctors can identify sickness in the early stages and prescribe suitable medication.

Cloud Computing Takes Over

Cloud computing delivers computing services that provide advanced innovation and versatile resources to speed up the process of conveying storage, databases, software, analytics and intelligence over the Internet, or 'the cloud'. The emergence of cloud computing provides endless space and possibilities to those seeking to grow their services and execution of their business.

Computing
Is An Option If..

01   You enjoy working alone

Most computing jobs require a lot of autonomy, making it a great career path for introverts. If you enjoy working alone rather than with a group of colleagues. If you enjoy time to think and come up with solutions alone for your programming to work, then computing is ideal for you.

02   You are good at problem solving

You can independently explore and come up with creative methods that solve problems related to computing and programming.

03   You enjoy challenges

Do you enjoy tinkering with gadgets and devices? Or love solving mathematical questions? If 'yes' is your answer, you can pursue a diploma or degree in computing.

What's In A **Computing Course**?

The topics that you will likely come across while studying a Diploma or Degree in Computing or IT might include:

- Artificial Intelligence

- Software Design and Architecture

- Cloud Architecture

- Human Computer Interaction

- E-Commerce

- Internet Programming

- Computer Vision and Image Processing

Nilai University offers Computing programmes that set students on a promising pathway towards a rewarding computing & IT career.

Find out more:
http://apply.nilai.edu.my/computing

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www.nilai.edu.my

**We are open daily
(9:00 am - 5:00 pm)
Closed on Public Holidays**

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