WHERE COULD COMPUTING TAKE YOU?

Technology is revolutionising almost every global industry and is transforming the way we live.
Explore how advances in computing technology are changing industries, from healthcare and education, to sport and finance.

University of Salford MANCHESTER

HEALTHCARE

ARTIFICIAL INTELLIGENCE (AI):
AI algorithms are enabling us to design treatment plans, create drugs and even identify breast cancer more accurately and faster than ever before.

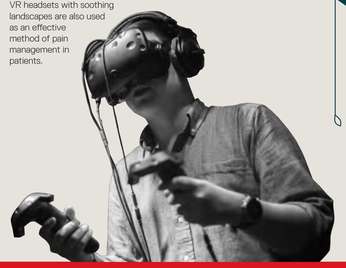
CYBER SECURITY:
Due to the abundance of sensitive records and the number of devices essential to healthcare, it is one of the most vulnerable industries to cyberattacks.

Cutting edge cyber security practice is vital for patient data protection.

Specialise in cyber security and learn how to diagnose and defend cyber attacks about with a **BSC (HONS) COMPUTER SCIENCE WITH CYBER SECURITY** degree.

VIRTUAL REALITY (VR):
VR technology is used to train surgeons to make them more accurate and give them an opportunity to practice operations before performing them in real life.

VR headsets with soothing landscapes are also used as an effective method of pain management in patients.



ENVIRONMENT

BIG DATA:
Large volumes of data are collected to monitor environmental degradation and understand its effect on populations.

For example, ocean-circulation models are established to monitor the impact of coastal erosion on remote South Pacific island communities.

SOFTWARE DEVELOPMENT:
In recent years a variety of handy apps have been developed for those who want to make more eco-friendly decisions, from saving food waste and swapping clothes, to monitoring your carbon footprint and even planting trees.

Focus on learning how to design and develop software with a **BSC (HONS) SOFTWARE ENGINEERING** degree.

INTERNET OF THINGS (IOT):
IoT technology is used to remotely monitor and programme devices to be as energy efficient as possible in home and work settings.

Sensors and other devices connected to the IoT can be programmed to make decisions based on real-time information.

Learn all about IoT technology and networking techniques through a **BSC (HONS) COMPUTER NETWORKS** degree.

SPORT

FACIAL RECOGNITION TECHNOLOGY:
Facial recognition technology can be used at sports stadiums as a security tool to remove banned fans and spot weapons in a crowd.

It can also be used to identify the demographics and even the mood of fans, and accordingly tailor music, lighting, and operations.

DATA ANALYTICS:
Coaches use data analysis techniques to inform future game strategy.

For example in basketball, algorithms analyse video footage from games to work out which moves are most likely to lead to a basket.

SMART ELECTRONIC DEVICES:
Wearable technology such as GPS trackers and heart rate monitors are worn by athletes to capture rich data on their performance.

A **BSC (HONS) COMPUTER SCIENCE** degree will give you the chance to study the essential components of computing, such as programming and data science with the option to take specialist modules in areas such as artificial intelligence and virtual reality.

TRANSPORT

AUTONOMOUS VEHICLES:
Autonomous vehicles, including driver-less trucks and "robotaxis" have the potential to transform the way people travel.

? DID YOU KNOW – researchers across the University of Salford are conducting pioneering studies into the challenges of autonomous vehicles?

NETWORK PENETRATION TESTING:
Penetration testing methods are used to identify any vulnerabilities in intelligent transport systems, such as sensors, cameras, traffic lights etc.

This can protect from cyber-attacks that could result in dangerous transport or traffic incidents.

AUGMENTED REALITY (AR):
AR technology is being introduced to warehouses in the transportation sector in the form of smart glasses.

Smart glasses allow staff to identify warehouse items more accurately and efficiently.

Smart glasses have the potential to change the way we shop for groceries too!

FINANCE

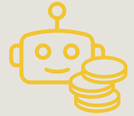
BLOCKCHAIN
Blockchain technology is used to create a digital record of transactions, which are duplicated and distributed across a network of computer systems.

It is used as the basis for cryptocurrencies like bitcoin, but it also has the potential to make the mainstream financial services industry more transparent, cheaper for consumers and more secure.

MACHINE LEARNING
In the banking and finance industries machine learning and AI techniques are very effective in fraud detection.

AI can track your transaction history and use previous patterns to calculate the likelihood of fraud much faster and more accurately than a human can.

ROBOTIC PROCESS AUTOMATION (RPA)
RPA is a software technology that can be programmed to do basic, repetitive tasks. In the financial industry RPA is effective at improving the efficiency and accuracy of these sorts of tasks, from auditing financial statements to processing basic payment transactions.



EDUCATION

CLOUD COMPUTING
Cloud computing has become increasingly important in education in recent years. Students, teachers and administrators are able to communicate with each other, instantly upload learning materials, hand-in homework and access extra resources and help via cloud computing.

VR TECHNOLOGY
VR technology allows students to become immersed and learn about a subject by experiencing it. For example instead of reading through a textbook to learn about a particular historical event, with the right VR technology the student could be transported to see a designed version of that event with their own eyes.

MOBILE APPS
Mobile applications have changed the way we learn, making it easier to study in bite-sized chunks, testing us and reminding us to re-learn the points we've forgotten. There are apps for many different studies, from picking up a new language or learning to code, to checking your grammar or completing a business studies course.

FOOD PRODUCTION

SMART SENSORS
In food production and agriculture smart sensors can translate the physical world into data, which makes production more effective and efficient.

Sensors can perform functions such as counting inventory, monitoring storage conditions, collecting data on soil moisture, tracking the number and species of insects and more. They can upload the data collected to a cloud or app in real time.

BLOCKCHAIN
In addition to ensuring the transparency and security of financial transactions, blockchain is sometimes used in food production to provide accurate information about a product's supply chain.

A consumer can scan an ID on a product's packaging with their smart phone to see the chain of production for each of the product's ingredients and processing stages.

HACKATHONS
Hackathons aim to produce a functioning piece of software or hardware during the event, usually with a specific focus. In the case of the food industry, hackathons are becoming more common to bring together a variety of thinkers to come up with creative and sustainable solutions for the future of food.

EXPLORE COMPUTING AND LEARN HOW TO APPLY UNIQUE EXPERTISE TO ANY INDUSTRY:
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