

# Weekly Discovery

We SHARE to inspire and ignite ideas!

26 February 2018 - 2 March 2018



## SPECIAL FEATURE by SUTD LIBRARY

### Big Data and Impact on the World

Big data has great impact on many sectors. This issue will look at some articles from standards and frameworks; security issues in big data environment; as well as articles from arenas like healthcare; financial; and smart cities. This issue hopes to provide some insights to some challenges and opportunities in the big data environment. It covers over 65 publications over the last 6 years.

[DOWNLOAD](#)

#### ADVANCED MANUFACTURING

### Industry X.0: Ready for the Future of Product Engineering?



In Industry X.0, convergence of technology advances propels the manufacturing sector with mass customisation, smart and connected products, and real-time output rate. Also learn from real life cases in the [report](#).  
Source: [Accenture](#) (21 December 2017)

#### AGEING IN PLACE

### Design Options for an Ageing New Zealand Population: A Life Cycle Energy (LCE) Analysis



A thorough analysis of the ageing population in New Zealand and an in-depth analysis on conserving the life cycle energy of residential units by converting them into smaller units, which can adapt to the changing needs of the population.  
Source: [Energy and Buildings](#) (1 May 2018)

#### ARCHITECTURE

### Liberal Arts



This article details the design features and structural framework of this stunning piece of architecture, which is envisioned to be a knowledge-filled living room flexible enough to accommodate various uses.

Source: D+A (Issue 102)  
Available @ SUTD Library (Call Number NA1 D)

#### ARTIFICIAL INTELLIGENCE

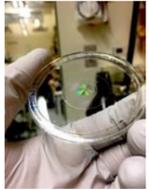
### Artificially Intelligent Bots Could Threaten the World and More Needs to Be Done, Experts Warn



26 world's leading experts surveyed the potential security [threats and risks](#) of Artificial Intelligence technologies and proposed approaches to prevent and mitigate these threats. Read the [full report](#).  
Source: [Independent](#) (21 February 2018)

#### ARTIFICIAL LENS

### Metalens Combined with an Artificial Muscle



A breakthrough in the convergence of artificial muscles and metalens technologies presents a tuneable metalens that can intelligently adjust its focus in real time. Read also at [Science](#) and [OSA](#).  
Source: [Science Daily](#) (23 February 2018)

#### AUTONOMOUS DRONE

### Skydio Unveils Autonomous 4K Camera Drone for Athletes



A fully autonomous drone powered by AI and vision algorithms can record athletes running down an undulating terrain and capture a tennis player's movements for performance review.

Source: [SportTechie](#) (23 February 2018)

#### BIG DATA SOURCES

### Big Data and AI: 30 Amazing (and Free) Public Data Sources for 2018



Facing challenges in searching for data on prevailing technologies? Check out this article which suggests 30 free sources of Big Data available online which you could use to expand your research.

Source: [Forbes](#) (26 February 2018)

#### BIO-FACTURE

### Grow Your Own



A designer moves away from mass manufactured furniture and is running a business in slow manufacturing. Place your order and it starts to grow! These mushroom furniture pieces are durable and natural.

Source: Hole & Corner (Issue 15)  
Available @ SUTD Library (Call Number AP2 HOL)

#### BIOMEDICAL TECHNOLOGY

### Metabolic Modelling Becomes Three-Dimensional

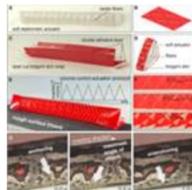


Recon3D is the product of integrating biomedical research with computer programming. Read about how Recon3D can assist better understand the metabolic processes taking place inside our body. Read more at [Nature](#).

Source: [EurekAlert!](#) (22 February 2018)

#### BIOMIMICRY

### Snake-Inspired Robot Uses Kirigami to Move



Researchers developed a soft 'snake' robot that can move across difficult terrains for exploration, conduct search and rescue operations, and potentially assist in laparoscopic procedures. Also read at [Science](#).

Source: [Harvard](#) (21 February 2018)

#### CEO SURVEY

### The Anxious Optimist in the Corner Office: What's on the Mind of 1,293 CEOs Around the World?



Gain insights into what is driving optimism on the economy and business in 2018 among CEOs on different parts of the world, and what are the fears that keep them up at night. Read the [full report](#).

Source: [PwC](#) (2018)

#### ELECTROENCEPHALOGRAPHY

### Do You See What I See? Researchers Harness Brain Waves to Reconstruct Images of What We Perceive



Researchers found a method to rebuild what a human sees by [analysing brain waves](#). This would help law enforcement to collect eyewitness data from people with verbal communication difficulties. Also read more at [eNeuro](#).

Source: [MedicalXpress](#) (22 February 2018)

#### IT SECURITY

### Circumventing iOS Security Mechanisms for APT Forensic Investigations: A Security Taxonomy for Cloud Apps



Source: Britannica ImageQuest  
Introducing [Israeli innovation](#) that is able to unlock any iOS-based phone with celebrity technology. Read on and explore further from the 18 case studies on circumvention techniques.

Source: [Future Generation Computer Systems](#) (February 2018)

#### PHOTOSYNTHESIS

### Scientists Monitor Crop Photosynthesis, Performance Using Invisible Light



A discovery based on advanced understandings of crop physiology and sun-induced fluorescence data at a local scale. It paves the way for satellite monitoring of plant health and yields over vast areas of cropland.

Source: [Phys.org](#) (27 February 2018)

#### SMART CITIES

### A Smarter Smart City



Read about how Sidewalk Labs plans to redefine smart cities by conceptualising the city as a smartphone, as well as their ambitious plans to transform a 12-acre land in Toronto into a smarter smart city.

Source: [MIT Technology Review](#) (21 February 2018)

#### TECH FORECAST

### 10 Breakthrough Technologies



MIT Technology Review recently released their list of 10 Breakthrough Technologies for 2018, including 3D Metal Printing, Sensing City and AI for Everybody. Check out this latest updates and major players in each sector.

Source: [MIT Technology Review](#) (Mar / Apr 2018)

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