SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Weekly Discovery

We SHARE to inspire and ignite ideas!

28 December 2020 - 1 January 2021

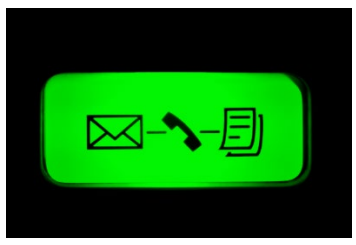
The Library publishes **9 alerts** focusing on Topics relevant to **growth and research areas** to SUTD.

Stay up to date by **subscribing** to any of these **9 Topical Reports** - CLICK HERE TO SUBSCRIBE NOW

Artificial Intelligence & Data Science | Aviation | Cities
HealthCare | Robotics & Automation | Design & Innovation
Cybersecurity | Digital Design & Fabrication | Advanced Manufacturing

AI

The Newest Weapon Against Covid-19: AI That Speed-Reads Faxes



"In a test using about 1,000 real faxes sent to Contra Costa, the model correctly identified high-priority cases 83 percent of the time, a level considered good enough for a real-world test."

Source: Wired (22 December 2020)

ARCHITECTURE

kengo kuma and geoff nees build 'botanical pavilion' at NGV triennial 2020

"the project takes the form of a gallery-scale circular pavilion that acts as a sensorial walkway through which to approach and contemplate ufan's painting."

Source: Design Boom (21 December 2020)

COVID-19

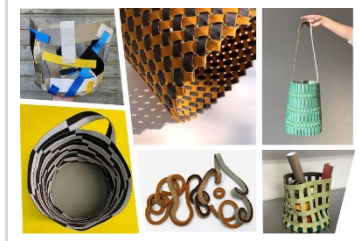
Modeling Can Help Balance Economy, Health During Pandemic

"Using mathematical modeling, new interdisciplinary research from the lab of Arye Nehorai…determines the best course of action when it comes to walking the line between economic stability and the best possible health outcomes."

Source: Washington University in St. Louis (23 December 2020)

DESIGN

These Designers Have an (Emoji-Inspired) Basketmaking Club



"And as time has elapsed, the designers have become more and more ambitious. "The definition of a basket is something we continue pushing," Wolfond says about their experimentation with unconventional materials and unexpected shapes. "I don't know if early on if someone would have sewn chair webbing together to make a basket."

Source: Curbed (14 December 2020)

DEVICE

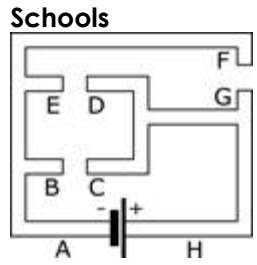
High-Five Or Thumbs-Up? New Device Detects Which Hand Gesture You Want To Make

"UC Berkeley researchers have created a new device that combines wearable biosensors with artificial intelligence software to help recognize what hand gesture a person intends to make based on electrical signal patterns in the forearm."

Source: UC Berkeley (21 December 2020)

EDUCATION

New Curriculum Improves Students' Understanding Of Electric Circuits In Schools

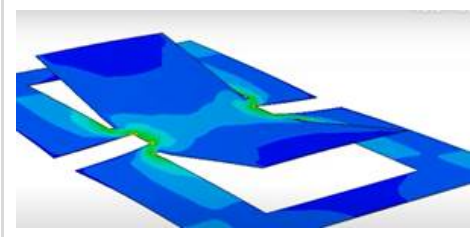


"Researchers at universities in Frankfurt and Tübingen have developed and empirically evaluated a new teaching concept for teaching secondary physics."

Source: EurekAlert! (18 December 2020)

FABRICATION

Japanese Art Technique Inspires New Engineering Technique

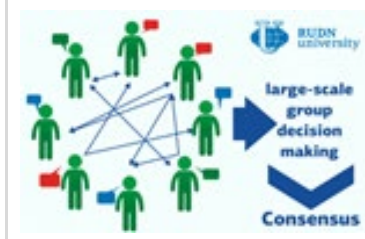


"The engineered kirigami structures could be employed in a number of applications ranging from microscale grippers (e.g. cell picking) to spatial light modulators to flow control in airplane wings. These capabilities position the technique for potential applications in biomedical devices, energy harvesting, and aerospace."

Source: Northwestern University (22 December 2020)

MATHEMATICS

Mathematicians Develop a New Decision Making Algorithm

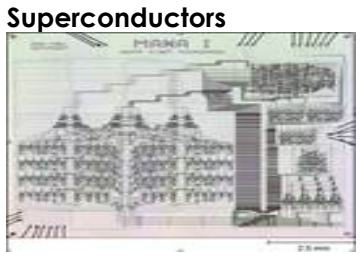


"A research team from RUDN University developed an algorithm to help large groups of people make optimal decisions in a short time."

Source: SciTech Daily (25 December 2020)

MICROPROCESSORS

Extremely Energy Efficient Microprocessor Developed Using Superconductors

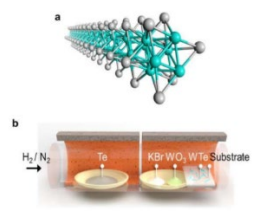


"Researchers from Yokohama National University in Japan have developed a prototype microprocessor using superconductor devices that are about 80 times more energy efficient than the state-of-the-art semiconductor devices found in the microprocessors of today's high-performance computing systems."

Source: EurekAlert! (28 December 2020)

NANOTECHNOLOGY

Atomic-Scale Nanowires Can Now Be Produced at Scale



"By changing the substrate where the wires form, they can tune how these wires are arranged, from aligned configurations of atomically thin sheets to random networks of bundles. This paves the way to industrial deployment in next-gen industrial electronics, including energy harvesting, and transparent, efficient, even flexible devices."

Source: Phys.Org (24 December 2020)

NEURAL NETWORKS

Exploring The Notion Of Shortcut Learning In Deep Neural Networks

"In a recent paper published in Nature Machine Intelligence, researchers at Tübingen and Toronto universities explored and discussed a problem known as 'shortcut learning'."

Source: TechXplore (23 December 2020)

OUTLOOK

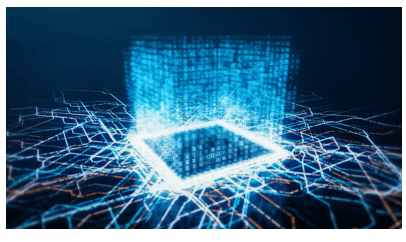
To Meet Tomorrow's Challenges

"Through our work around the world, we have identified five key areas that can help the international development community rethink how they build in the resilience not just to resume operating fully during and after the COVID-19 pandemic but to weather future disruptions."

Source: PWC (17 December 2020)

QUANTUM COMPUTING

Researchers Can Now Achieve "Quantum Advantage"

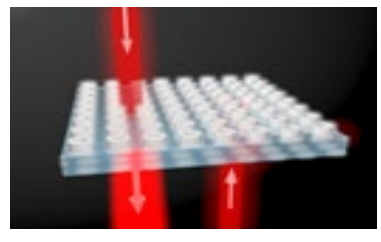


"…researchers have advanced their quantum technology to such a degree that classical computing technology can no longer keep up. They have developed a chip that, with financial backing, could be scaled up and used to build the quantum simulator of the future."

Source: SciTech Daily (27 December 2020)

RECIPROCITY LAW

Researchers Develop New Way To Break Reciprocity Law



"The breakthrough makes a significant step forward in photonics and microwave technology by eliminating the need for bulky magnets."

Source: Aalto University (23 December 2020)

TECHNOLOGY

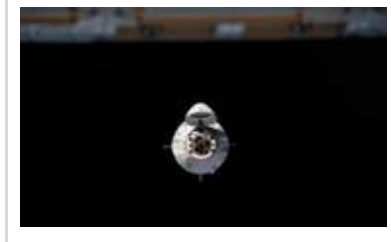
New Technology Peers at the Electrical Signals Inside Cells – May Inspire New Fields of Research

"University of Chicago scientists pioneer new method of measuring electricity in cells."

Source: SciTech Daily (27 December 2020)

TECHNOLOGY

The Virus-Free Scientific Breakthroughs Of 2020, Chosen By Scientists



"The response to Covid-19 has been momentous but discoveries in AI, diet, conservation, space and beyond, show the power of science to improve the world post-pandemic."

Source: The Guardian (17 December 2020)

To view past Weekly Alerts CLICK HERE
For more articles or in-depth research, contact us at library@sutd.edu.sg