

Weekly Discovery

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24 JUNE 2019 - 28 JUNE 2019

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

ARCHITECTURE
CO-LAB Designs the LUUM Temple with Sweeping Catenary Arches Made from Bamboo



"In the heart of a conserved area of native jungle in Tulum, Mexico, the 'LUUM Temple' offers a quiet natural setting for introspection and reflection. The pavilion takes the form of a five sided catenary structure, with sweeping walls made from sustainably-farmed bamboo, and arched vaults that co-exist in structural dependency."

Source: [designboom](#) (21 June 2019)

AI & HEALTHCARE
Smart Speaker Listens for Audible Signs of Cardiac Arrest



"The smart speaker system, described today in the journal *npj Digital Medicine*, detected agonal breathing events 97 percent of the time with almost no false alarms in a proof-of-concept study."

Source: [IEEE Spectrum](#) (19 June 2019)

ARTIFICIAL INTELLIGENCE
Medicine Contends with How to Use Artificial Intelligence



"One major concern: Most AI software is designed and tested in one hospital, and it risks faltering when transferred to another."

Source: [Science](#) (21 June 2019)

ARTIFICIAL INTELLIGENCE
Watch Artificial Intelligence Predict Conan O'Brien's Gestures Just from the Sound of His Voice

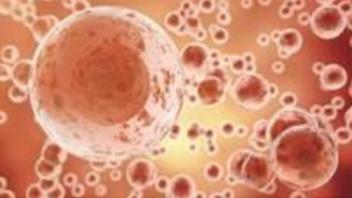


"Researchers collected 144 hours of video of 10 people speaking ... They used an existing algorithm to produce skeletal figures representing the positions of the speakers' arms and hands. They then trained their own algorithm with the data, so it would predict gestures based on fresh audio of the speakers."

More information on the research can be found [here](#).

Source: [Science Magazine](#) (21 June 2019)

CELLS
Stem Cell Protein Secretions Recorded in Real Time



"A new technology discovered by UConn School of Dental Medicine researchers records cellular communication in real time – providing a closer look into the dynamics of cell secretion and a greater understanding of how cells repair tissue."

Source: [Technology Network](#) (25 June 2019)

CYBER LAW
The Bumpy Road to a Meaningful International Law of Cyber Attribution



"Attributing computer network intrusions has grown in importance as cyber penetrations across sovereign borders have become commonplace. Although advances in technology and forensics have made machine attribution easier in recent years, identifying states or others responsible for cyber intrusions remains challenging."

Source: [AJIL Unbound](#) (24 June 2019)

DRONES
Future Technology Allows User to Operate Drones with Their Minds



"The technology works by injecting magnetic nanoparticles into the blood of the recipient. The particles are then steered into a specific section of the brain. Once there the particles will transmit the signals from the subject's brain."

Source: [iHLS](#) (24 June 2019)

ENERGY
Perovskite Solar Cells Tested for Real-World Performance – in the Lab



"Using data from a weather station near Lausanne (Switzerland) they reproduced the real-world temperature and irradiance profiles from specific days during the course of the year. With this approach, the scientists were able to quantify the energy yield of the devices under realistic conditions."

Source: [EPFL](#) (21 June 2019)

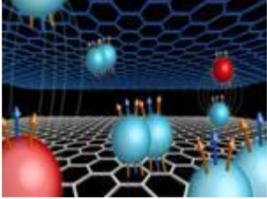
ENTREPRENEURSHIP
What Startup Employees Can Teach the Rest of Us About Work



"While these practices are largely drawn from the experiences of startup employees, elements of them also apply directly to the skills needed to succeed in a much larger organization."

Source: [Harvard Business Review](#) (24 June 2019)

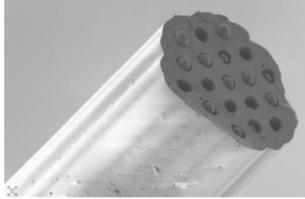
GRAPHENE
Research Reveals Exotic Quantum States in Double-Layer Graphene



"Findings shed new light on the nature of electron interactions in quantum systems and establishing a potential new platform for future quantum computers."

Source: [EurekAlert!](#) (25 June 2019)

HEALTHCARE
Miniature Probe Measures Tissue Health Deep Inside the Lung



"The research team, from the University of Edinburgh, Heriot-Watt University and the University of Bath, aims to tackle this challenge by creating a flexible micro-endoscopic device that can sense pH and oxygen levels."

Source: [Physics World](#) (19 June 2019)

IOT & HEALTHCARE
Personal Health Care System Using IOT



"The device is created in order to regulate medication schedules and deliver doses of medication according to a prescribed time and dose by alerting patients of the scheduled dose through communication means such as mobile phones."

Source: [International Journal of Online Engineering](#) (July 2019)

OPTICS
Stress Control Yields Inkless Color Printing



"Using structural colors in stressed polymer films, researchers at Kyoto University were able to print, without ink, this 3-mm-square image of Vermeer's famous 'Girl with a Pearl Earring'."

Source: [Optics & Photonics News](#) (21 June 2019)

ROBOTICS
Boing Goes the Trampoline Robot



"Roboticians from Zhejiang University in China are using a quadruped and a trampoline to study dynamic jumping robots."

Source: [IEEE Spectrum](#) (25 June 2019)

ROBOTICS
Breakthrough Sees First Mind-Controlled Robotic Arm with Noninvasive Implant



"Using a noninvasive brain-computer interface (BCI), the researchers have revealed the first-ever mind-controlled robotic arm that is able to track and follow a computer cursor."

Source: [Interesting Engineering](#) (20 June 2019)

ROBOTICS
Spotting Objects Amid Clutter



"A new MIT-developed technique enables robots to quickly identify objects hidden in a three-dimensional cloud of data, reminiscent of how some people can make sense of a densely patterned 'Magic Eye' image if they observe it in just the right way."

Source: [MIT News](#) (19 June 2019)

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