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HealthCare	Robotics & Automation	Design & Innovation
Cybersecurity	Digital Design & Fabrication	Advanced Manufacturing

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3D BIOPRINTING

Tel Aviv University Scientists Print First 3D Heart Using Patient's Biological Materials

"This heart is made from human cells and patient-specific biological materials. In our process these materials serve as the bioinks, substances made of sugars and proteins that can be used for 3D printing of complex tissue models."

Source: American Friends of Tel Aviv University (15 April 2019)

ADDITIVE MANUFACTURING

### Green Fab Lab Applications of Large-Area Waste Polymer-Based Additive Manufacturing

"In this study the Gigabot X, an open source industrial 3D printer, which has been shown to be amenable to a wide array of recyclables for FPF/FGF 3D printing, is used to evaluate this economic potential …"

Source: Additive Manufacturing (May 2019)

ARTIFICIAL INTELLIGENCE

Artificial Intelligence Singles Out Neurons Faster Than a Human Can
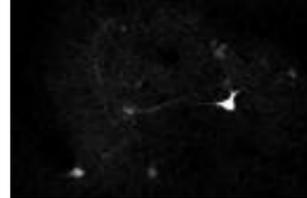
"Biomedical engineers have developed an automated process that can track and map active neurons as accurately as a human can, but in a fraction of the time."

Source: Science Daily (12 April 2019)

BLOCKCHAIN

Cube Chain Launches Test-Net of Revolutionary Blockchain Ecommerce Platform

"Cube Chain creates 24 data and special blocks and places them into a 'cube'. The special blocks are made up of a data index block, data statistics processing block, and an escrow function block."

Source: Global Newswire (14 April 2019)

CLOUD SECURITY

### Asia-Pacific Cloud Workload Security Industry Guide

"As cloud workloads are increasing in number and getting more complex, businesses need to have visibility into the cloud environment and fully understand what, where, and how to protect these workloads."

Source: Frost & Sullivan (12 April 2019)

COMPUTER SCIENCE

A Novel Data-Compression Technique for Faster Computer Programs
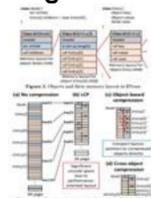
"… Researchers free up more bandwidth by compressing 'objects' within the memory hierarchy."

Source: EurekAlert! (April 2019)

DATA SCIENCE

Working Scientist Podcast: Learn to Code to Boost Your Research Career

Getty Images

"Jessica Hedge tells Julie Gould how she learned to code as PhD student, and the freedom and flexibility it provides to manage large datasets …"

Source: Nature (11 April 2019)

DEVICES

Best in Snow: New Scientific Device Creates Electricity from Snowfall

"Snow is positively charged and gives up electrons. Silicone combined with carbon, hydrogen and other elements - is negatively charged. When falling snow contacts the surface of silicone, that produces a charge that the device captures, creating electricity."

Source: University of California - Los Angeles (15 April 2019)

GENE-EDITING

CRISPR-Cas3 Innovation Holds Promise for Disease Cures, Advancing Science

"A Cornell researcher developed a new type of gene editing CRISPR system that can efficiently erase long stretches of DNA from a targeted site in the human genome."

Source: Cornell (11 April 2019)

GRAPHENE

A New Graphene Foam Stays Squishy at the Coldest Temperatures
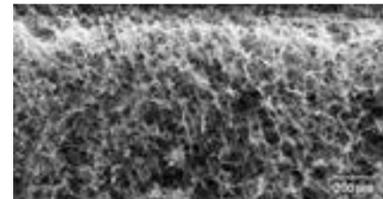
"A new graphene-based foam is the first material to remain soft and squishy even at deep cryogenic temperatures. Most materials become stiff and brittle in extreme cold. The foam stays super elastic even when subjected to the temperature of liquid helium."

Source: Science News (12 April 2019)

INDUSTRY 4.0

Digital Innovation: Creating the Utility of the Future

"As disruptive forces transform the power and utilities sector, many companies are turning to digital technologies and a more innovative mindset to thrive in the new era. Those that don't seize the opportunity to evolve risk being left behind or displaced by more agile players."

Source: Deloitte (9 April 2019)

INTERNET OF THINGS

All Things Can Be Part of the Internet of Things with New RFID System

"The system, called IDAct, bridges the gap between the estimated 14.2 billion 'smart' electronic devices that are currently part of the Internet of Things and the hundreds of billions of everyday non-smart objects left out of the picture."

Source: Michigan Engineering (9 April 2019)

MEDICAL SERVICE DESIGN

Designing a Program Evaluation for a Medical-Dental Service for Adults with Autism and Intellectual Disabilities Using the RE-AIM Framework
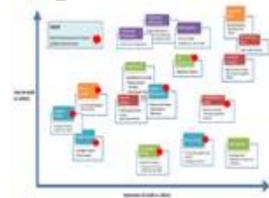
"… evaluations that benchmark and sustain models serving adults with developmental disabilities are lacking, impeding pilot programs from becoming official care pathways …"

Source: Learning Health Systems (April 2019)

NANOTECHNOLOGY

Water That Never Freezes

"Can water reach minus 263 degrees Celsius without turning into ice? Yes it can, say researchers from ETH Zurich and the University of Zurich, if it is confined in nanometre-scale lipid channels."

Source: Eth Zurich (10 April 2019)

ROBOTICS

### This Bot Might Be the Way to Save Recycling

"The robot aims to reduce the reliance on human sorters and thus improve the viability of recycling operations. This is achieved through a novel approach of using special actuators that sort by material stiffness and conductivity."

Source: Hackaday (13 April 2019)

WATER RESOURCES MANAGEMENT

Improving Water Resources Management with Satellite Data
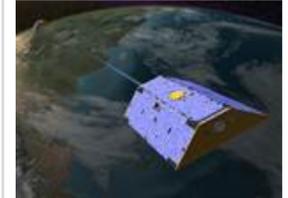
"An extensive review reveals that remote sensing is changing the way we manage water resources and suggests that the coming years will bring both exciting advancements and new challenges."

Source: EOS (8 April 2019)

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