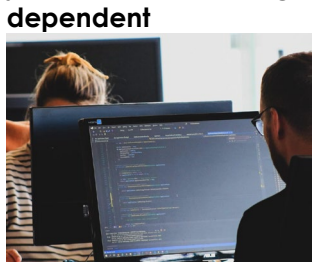
Weekly Discovery

We SHARE to inspire and ignite ideas!

19 - 23 September 2022

AI

Coding Made AI—Now, How Will AI Unmake Coding? It won't replace many coding jobs, but many coding jobs will be increasingly AI-dependent

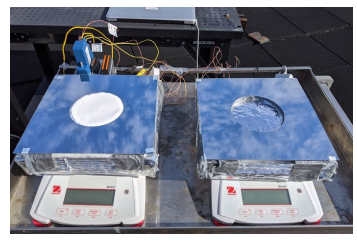


"According to the experts IEEE Spectrum consulted, the bad news is coding as we know it may indeed be doomed. But the good news is computer programming and software development appears poised to remain a very human endeavor for the foreseeable future. In the meantime, AI-powered automated code generation will increasingly speed software development by allowing more code to be written in a shorter time."

Source: IEEE Spectrum (19 September 2022)

COOLING

Passive Cooling System Could Benefit Off-Grid Locations

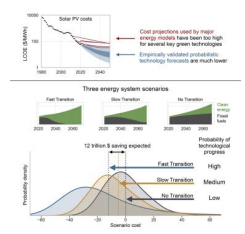


"As the world gets warmer, the use of power-hungry air conditioning systems is projected to increase significantly, putting a strain on existing power grids and bypassing many locations with little or no reliable electric power. Now, an innovative system developed at MIT offers a way to use passive cooling to preserve food crops and supplement conventional air conditioners in buildings, with no need for power and only a small need for water."

Source: MASSACHUSETTS INSTITUTE OF TECHNOLOGY (20 September 2022)

DECARBONISATION

Decarbonising The Energy System By 2050 Could Save Trillions - New Oxford Study

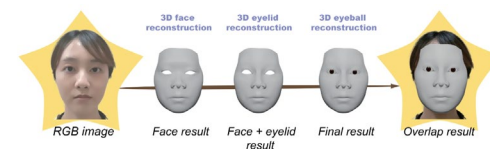


"The study's 'Fast Transition' scenario, shows a realistic possible future for a fossil-free energy system by around 2050, providing 55% more energy services globally than today, by ramping up solar, wind, batteries, electric vehicles, and clean fuels such as green hydrogen (made from renewable electricity)."

Source: Georgia Institute of Technology (14 September 2022)

ENCRYPTION

'Digital mask' Could Protect Patients' Privacy In Medical Records



"Scientists have created a 'digital mask' that will allow facial images to be stored in medical records while preventing potentially sensitive personal biometric information from being extracted and shared."

Source: University of Cambridge (15 September 2022)

NANOMEDICINE

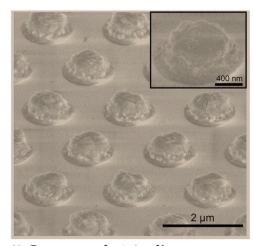
Researchers Develop Painless Tattoos That Can Be Self-Administered

"Researchers at the Georgia Institute of Technology have developed low-cost, painless, and bloodless tattoos that can be self-administered and have many applications, from medical alerts to tracking neutered animals to cosmetics."

Source: Georgia Institute of Technology (14 September 2022)

OPTICS

Optical Rule Was Made To Be Broken



"Gururaj Naik, an associate professor of electrical and computer engineering at Rice's George R. Brown School of Engineering, and Applied Physics Graduate Program alumna Chloe Doiron found a way to manipulate light at the nanoscale that breaks the Moss rule, which describes a trade-off between a material's optical absorption and how it refracts light.."

Source: Rice (12 September 2022)

PUBLIC HEALTH

Typical Movement Behaviour At Large Events Increases Risk Of Spreading Infectious Diseases

"A group of researchers from the Informatics Institute at the University of Amsterdam, together with an epidemiologist from the Utrecht University, set out to investigate using data from events in a large stadium in Amsterdam. Their results have now been published in the journal Nature Scientific Reports."

Source: Universiteit van Amsterdam (15 September 2022)

ROBOTS

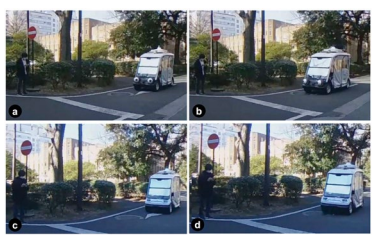
Tiny, Caterpillar-Like Soft Robot Folds, Rolls, Grabs And Degrades

"When you hear the term "robot," you might think of complicated machinery working in factories or roving on other planets. But "millirobots" might change that. They're robots about as wide as a finger that someday could deliver drugs or perform minimally invasive surgery."

Source: American Chemical Society (14 September 2022)

SELF-DRIVING CARS

Can Eyes On Self-Driving Cars Reduce Accidents?

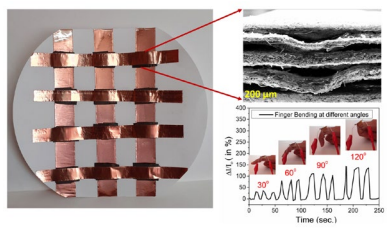


"Robotic eyes on autonomous vehicles could improve pedestrian safety, according to a new study at the University of Tokyo. Participants played out scenarios in virtual reality (VR) and had to decide whether to cross a road in front of a moving vehicle or not. When that vehicle was fitted with robotic eyes, which either looked at the pedestrian (registering their presence) or away (not registering them), the participants were able to make safer or more efficient choices."

Source: UNIVERSITY OF TOKYO (20 September 2022)

SENSORS

Sensing Pressure Using Paper



"Several industrial, automotive, and healthcare applications rely on accurate and precise measurement of pressure. Flexible and wearable pressure sensors are typically fabricated using petroleum-based polymers. The solid waste generated from using such non-biodegradable plastics is harmful for the environment. To avoid this issue, researchers at the Indian Institute of Science (IISc) have now fabricated pressure sensors that use paper as the medium."

Source: INDIAN INSTITUTE OF SCIENCE (IISC) (20 September 2022)

SUSTAINABILITY

Researchers Identify How Science Can Help Cities And Companies To Operate Within Earth System Limits

"What businesses and cities must do to stay within 'safe and just' environmental limits for carbon, water, nutrients, land and other natural resources is the subject of a new set of recommendations from Earth Commission experts."

Source: Exeter (15 September 2022)

WIND

This New Wind Turbine Concept Isn't Like Any We've Seen Before

"The concept of vertical axis turbines is not new, but the architecture of this machine—which the company says is patent pending—is radically different. The design employs two coaxial, or counter-rotating, rotors mounted on a vertical shaft."

Source: Fast Company (20 September 2022)