

Best of Last Week—Frost on Mar's tallest volcanoes, a car-driving robot and risk equations for lowering statin use

June 17 2024, by Bob Yirka

Autonomous driving by musculoskeletal humanoids. Credit: *arXiv* (2024). DOI: 10.48550/arxiv.2406.05573

It was a good week for space science, as an international team of researchers used high-resolution color images from the Bernese Mars

camera CaSSIS onboard the European Space Agency's ExoMars Trace Gas Orbiter spacecraft to [detect frost on the solar system's tallest volcanoes on Mars](#). Also, a pair of astrophysicists at Harvard University, working with a colleague from Johns Hopkins University, calculated [the likelihood that Earth was exposed to cold, harsh interstellar clouds 2 million years ago](#). And a team with members from the Space Telescope Science Institute, SOFIA-USRA, NASA Ames Research Center and Harvard & Smithsonian's Center for Astrophysics, used new data from NASA's Hubble Space Telescope and the retired SOFIA, along with archival data, to [find surprises around a star that erupted 40 years ago](#).

In technology news, a team of roboticists at the University of Tokyo, took a new approach to autonomous driving—[instead of automating the entire car, they just put a robot in the driver's seat](#). And another team of engineers affiliated with several institutions in the U.S. developed [advanced AI-based techniques that can be used to scale up solving complex combinatorial optimization problems](#).

Also, a team of mechanical engineers at the University of Alberta paired up with a renewable energy company to design and test [wind turbines](#) based on the wings of the world's heaviest soaring bird: the Andean condor. And a team of computer scientists from the University of California, Berkeley, Stanford University and CMU demonstrated [an open-source generalist model for robot object manipulation](#)—called Octo, it could allow robotic systems to effectively manipulate a wide range of objects.

In other news, a team of health and nutritional researchers at the University of São Paulo, working with colleagues at Imperial College London and the International Agency for Research on Cancer, found evidence of [a link between plant-based, ultra-processed foods and a higher risk of cardiovascular disease](#). Also, a team with members affiliated with several institutions in Russia discovered a [mammoth](#)

[graveyard' in Siberia](#), revealing 800 years of human interactions with the woolly beasts.

And finally, a combined team of medical researchers from the University of Pittsburgh, Beth Israel Deaconess Medical Center and the University of Michigan found evidence that [statins for heart disease prevention could be recommended for far fewer Americans if a new risk equation is adopted](#).

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