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Mobile Apps II

Week 2 Summaries

Article 1: Robot performs keyhole surgery on pigs with little help from doctors

The article by Matthew Sparks explores an important accomplishment in the medical technology field. Justin Operman and his team of colleagues at John Hopkins University successfully programmed a robot to perform an intestinal anastomosis keyhole surgery on pig bowels. The robot was able to carry out the surgery autonomously most of the time, with little guidance needed for suturing. With the use of a 3D camera in its arm and a customer software, the 3D images created allowed for depth perception and mapping of the changing layout of the abdomen. This enabled for accuracy for suturing with minimal intervention from surgeons. With the current success, the team hopes to progress the robot into performing a greater portion of the surgery. Robots controlled by surgeons are becoming more and more prevalent but having fully autonomous robot surgeries in humans is still in the near future with a growing field to explore.

Article 2: MIT engineers produce the world's longest flexible fiber battery

The following article by David Chandler highlights the research done by Tural Khudiyev and other researchers at Massachusetts Institute of Technology on the development of the longest rechargeable lithium-ion battery fiber measuring 140 meters long. This fiber could be incorporated into fabrics and even into wearable electronics. The 140 meters fiber has storage capacity of 123 milliamp-hours and is the thinnest of any previous attempt. Although there have been other battery fibers in the past, unlike those, the new system contains lithium and other materials embedded inside a protective outside casing. This enable the fiber to be more durable and waterproof. Moreover, other devices such as integration of LED, can be made possible in the near future. Another implication of this fiber can be seen in 3D printing where the structural casting itself can act as the power supply. The future of this fiber can lead to everyday objects having computational units inside including Li-Fi.

Bibliography

@misc{sparkes_2022, title={Robot performs keyhole surgery on pigs with little help from doctors}, url={https://www.newscientist.com/article/2305980-robot-performs-keyhole-surgery-on-pigs-with-little-help-from-doctors/}, journal={New Scientist}, publisher={New Scientist}, author={Sparkes, Matthew}, year={2022}, month={Jan}, abstract={This article talks about how the robot is able to perform surgery on a pig with little assistance from the doctors. It is of interest to me because with the help of technology, we can do things that only humans could do at one point.}}

@misc{chandler_2021, title={MIT engineers produce the world's longest flexible fiber battery}, url={https://news.mit.edu/2021/fiber-battery-longest-1220}, journal={MIT News | Massachusetts Institute of Technology}, publisher={MIT Office of Communications}, author={Chandler, David L}, year={2021}, month={Dec}, abstract={This article talks about how MIT students are able to fit lithium battery inside a fiber. It is of interest because it would be fascinating to see how they are able to use this concept to reduce the use of lithium battery in certain things}}