

# IROS 2024 Concludes in Abu Dhabi, Highlighting Groundbreaking Innovations in CT-Guided Flexible Endoscope Robotics

ABU DHABI, UNITED ARAB EMIRATES, October 30, 2024 /EINPresswire.com/ -- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2024), a premier event in the global robotics field, concluded today in Abu Dhabi, UAE. Out of over 1,500 papers submitted, a joint study by The Chinese University of Hong Kong (CUHK) and Xmotors.ai, titled “A CT-guided Control Framework of a Robotic Flexible Endoscope for the Diagnosis of the Maxillary Sinusitis,” was selected for oral presentation, highlighting its innovative contributions to surgical robotics.



Xiaoyin Zheng, a researcher from Xmotors.ai, presented the team’s CT-guided endoscope robot study at IROS 2024.

Traditional surgeries for maxillary sinusitis typically require extensive incisions, causing significant discomfort and leaving facial scars. The complexity of the nasal cavity often prevents traditional rigid endoscopes from reaching deeper regions, and prolonged manual operation can fatigue surgeons, increasing the risk of errors.

The CUHK team, led by Professor Xin Ma from the Hong Kong Multiscale Medical Robotics Center, in collaboration with researchers from Xmotors.ai, introduced a novel minimally invasive surgical approach using a flexible endoscope. This approach combines CT imaging with advanced computer vision techniques to provide automated, real-time guidance, reducing the need for extensive manual control and minimizing human error. The flexible endoscope can precisely navigate the nasal cavity, reaching the surgical site with ease and accuracy, ultimately enhancing surgical precision and patient safety.

The team also employed a computer vision technology based on the Lisa model, using open-vocabulary object segmentation and endpoint detection, a cutting-edge application of vision-language models (VLM) in medical imaging. This technique enables high scalability and

adaptability, allowing users to locate new surgical instruments simply by editing prompt phrases without the need for extensive data retraining. This adaptability not only enhances procedural accuracy but also alleviates patient discomfort, underscoring the impact of this research in advancing patient-centered surgical care.

\*Held from October 14-18, 2024, at ADNEC in Abu Dhabi, IROS 2024 centered around the theme "Robotics for Sustainable Development." Established in 1988, IROS is one of the world's largest and most prestigious robotics conferences, providing a platform for sharing the latest advancements in intelligent robotics. This year's conference focused on robotics' role in achieving global sustainability goals, showcasing the contributions of emerging researchers and practitioners through keynote talks, workshops, technical sessions, competitions, and interactive forums.\*

Mike Qin

Media Strategy Global, LLC

[email us here](#)

Visit us on social media:

[Facebook](#)

---

This press release can be viewed online at: <https://www.einpresswire.com/article/756224031>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2024 Newsmatics Inc. All Right Reserved.