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Singapore's NUHS embarks on holomedicine research to enhance medical diagnosis

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Clinical validation studies and trials will be necessary prior to the adoption of this holomedicine solution as a primary clinical method



Singapore's National University Health System (NUHS) has embarked on a research and development programme to explore the use of mixed reality (MR) technology in clinical care. The research programme hopes to support the development of next-generation clinical applications and improve patient safety.

This would augment clinical processes, and enhance both undergraduate and postgraduate education. While the use of holographic technology in operating theatres is still nascent, NUHS hopes to apply it in multiple fields of surgery.

“Holomedicine leverages the concept of MR not only to augment our physical environment, but permits interaction with virtual objects superimposed onto the real world. The virtual objects can also be manipulated relative to the real world using natural hand gestures,” explained Dr Gao Yujia, Associate Consultant with the Division of Hepatobiliary & Pancreatic Surgery, National University Hospital (NUH), and the programme lead for holomedicine at NUHS.

A team of neurosurgeons at NUH has initiated a study to assess the feasibility of using holographic technology to spatially locate brain tumours when operating on patients.

The NUHS team, in collaboration with the Engineering Design & Innovation Centre under the National University of Singapore’s (NUS) Faculty of Engineering, has also been awarded a grant of $100,000 from the Engineering in Medicine Grant under NUHS and NUS in March 2021. The grant will enable the team to embark on a project on real-time volumetric rendering and positioning of ultrasound scans. NUHS has been collaborating with Microsoft and apoQlar in its holomedicine efforts. NUHS will continue to build on its existing partnerships and explore new industry collaborations.

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