



香港城市大學
City University of Hong Kong

Developing students' ability to understand, employ, and improve state-of-the-art robotic systems for minimally invasive healthcare in the peri- and post-pandemic eras

Project Number: 6000786

Principal Investigator: Dr. Jiachen ZHANG

Grant Type: TSG

Abstract:

Robotic systems have been steadily gaining popularity in minimally invasive healthcare. In the wake of COVID-19, minimally invasive robots come under the spotlight, because they minimize the cut in operations and permit safe distance between doctors and patients via teleoperation for infection control. However, undergraduate students lack exposure to and, more importantly, hands-on experiences with these novel robots. The ability to understand, employ, and improve these robots is a critical competence for young engineers and scientists in biomedical engineering and beyond. This project aims to prepare students to thrive in this modern healthcare paradigm in the peri- and post-pandemic eras. This project revises an existing undergraduate course BME3104 Robotic Technology in Healthcare to focus on novel miniature robots that access hard-to-reach regions inside human body and perform diagnostic and therapeutic tasks. This project designs and develops interactive hands-on teaching and learning method and materials on the inspirations and methodologies of these robots. It designs project manual and example to encourage students to employ robots to solve real-world problems. A library of project topics will be developed for students to brainstorm, investigate, and iterate their own robotic designs to meet the demand of modern healthcare and conquer challenges.