

Robotics

Abstract

The 21st century is a century for robotics. Robots have long borne the potential to bridge the gap between the cybernetic world (the internet of things) and the physical world. As the most promising candidate to theme the next major industrial revolution succeeding the present third (digital) industrial revolution, robotics is set to play an ever increasingly important role in society for its influence in every aspect of life in Hong Kong, including medicine and healthcare, building service, manufacturing, food production, logistics and transportation.

The 21st century is also the century for Asia, or greater China in particular. China has become the biggest and fastest-growing country in the global industrial robot market for its changing manufacturing environment and improving quality-of-living standards, with foreseeable demand of robots not only in the manufacturing industry, but also other service and societal sectors. With its strong tradition in innovation and close ties to global research frontiers, Hong Kong currently holds a leading edge in sectors such as medical, logistics, and domestic service robots. However, with its sheer size, financial commitment, and strong industrial foundation, the Mainland is rapidly picking up speed, especially in the industrial and entertainment sectors. It is hence a critical moment for Hong Kong researchers to join efforts and form a critical mass in robotic research to maintain the regional, and towards global lead in service robotic research. Hong Kong researchers, working on the cutting-edge of robotics that is closely associated with the future economy of Hong Kong, have many top-level work for robotic surgical assistance, cell manipulation, manufacturing, and warehousing management, leading to highly translational and profitable outcomes that would help establish and thrive the Hong Kong unique industry in medical and service robots, complemented by a vast fabrication hub and grand market in the Mainland.