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Fully Autonomous UAS and Its Applications

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Abstract:

The research and market for the unmanned aerial systems (UAS), or drones, has greatly expanded over the last few years. It is expected that the currently small civilian unmanned aircraft market is likely to become one of the major technological and economic stories of the modern age, due to a wide variety of possible applications and added value related to this potential technology. Modern unmanned aerial systems are gaining promising success because of their versatility, flexibility, low cost, and minimized risk of operation. In this talk, we highlight some key techniques involved in developing fully autonomous unmanned aerial vehicles and their industrial application examples, which includes deep tunnel inspection, stock counting and checking in warehouses and building inspections.

Biography:

Ben M. Chen is currently a Professor in the Department of Mechanical and Automation Engineering at the Chinese University of Hong Kong. He was a Provost's Chair Professor in the Department of Electrical and Computer Engineering, the National University of Singapore (NUS), where he was also serving as the Director of Control, Intelligent Systems and Robotics Area, and Head of Control Science Group, NUS Temasek Laboratories. His current research interests are in unmanned systems, robust control and control applications. Dr. Chen is an IEEE Fellow. He has published more than 400 journal and conference articles, and a dozen research monographs in control theory and applications, unmanned systems and financial market modeling by Springer in New York and London. He had served on the editorial boards of several international journals including IEEE Transactions on Automatic Control and Automatica. He currently serves as an Editor-in-Chief of Unmanned Systems. Dr. Chen has received a number of research awards nationally and internationally. His research team has actively participated in international UAV competitions, and won many championships in the contests.