



北京理工大学

数学与统计学院学术报告

Intelligent Control and Machine Learning Integration for Real-World Applications

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摘要: This presentation aims to provide an introductory overview of the integration of intelligent control and machine learning, two powerful disciplines in the field of automation and decision-making. It will cover fundamental concepts such as open/closed-loop control systems and models, highlighting their roles in regulating and optimizing dynamic processes. The significance of fuzzy logic will also be discussed, showcasing its ability to handle uncertainties and complex systems that are difficult to model using traditional control techniques. By employing fuzzy logic, we can create adaptive and robust control systems capable of handling real-world variations and uncertainties. Throughout the talk, various applications will be explored, ranging from robot control in manufacturing environments to drug administration in healthcare settings. Additionally, we will delve into biomedical engineering problems where intelligent control and machine learning techniques are used to enhance diagnostics and treatment. Furthermore, the presentation will demonstrate how to synergize intelligent control techniques with machine learning algorithms for both lab-based research and practical applications. By integrating these approaches, we can achieve enhanced performance and efficiency in control systems, leading to optimized outcomes in diverse real-life scenarios. This talk will offer valuable insights into the seamless fusion of intelligent control and machine learning, providing attendees with a broader perspective on cutting-edge research and its practical applications across various domains.

个人简介:

H.K. Lam is a Reader in King's College London. Current research interests include fuzzy control, intelligent control, computational intelligence and machine learning. He has authored/co-authored over 370 publications (3 monographs, 2 edited books, 9 editorials, 6 book chapters, 255 journal papers, and 122 conference papers). He is an associate editor and editorial board member for many journals. He was named as a highly cited researcher and an IEEE Fellow.