

## 达尔豪斯大学工程学院教授顾建军

顾建军, 1972 年出生于江苏省南通市。1987 进入中国科学技术大学少年班。1992 年获得中国科学技术大学电子与信息工程学士学位。1995 年获得上海交通大学生物医学工程硕士学位。2001 年取得加拿大艾伯塔大学电子与计算机工程博士学位。现任加拿大达尔豪斯大学工程学院电子与计算机工程系教授、生物医学工程和计算机科学学院兼职教授。

其主要研究领域包括机器人的人工智能及控制、生物医学工程、康复助理、神经网络等;二十余年的研究及教育期间,发表了四百多篇国际学术论文。参与了一系列的学术讲演,包括国际控制科学与工程会议;国际机器人与自动化智能计算论坛; *2nd IFAC 机电系统会议*; 世界智能控制与自动化大会; *IEEE 加拿大电子与计算机工程会议*等等。还参加了达尔豪斯大学生物医学工程、阿卡迪亚大学计算机学院以及艾伯塔大学电子与计算机工程的一系列论坛,内容包括:传感融合在移动机器人中的应用;人工智能在生物医学工程中的应用;机器人与控制在生物医学工程及康复的应用等等。

此外,在他的指导下,多名博士生和研究生进行了包括“水下机器人的视觉定位”、“远程机器头颅钻在神经手术中的应用”、“移动机器人传感融合”等多项课题的研究。多年来顾建军博士获得了加拿大国家工程与研究科学基金,加拿大革新基金,加拿大新斯科舍省科研与革新基金,帝国石油公司科研奖等仪器与科研经费,经费总额逾八百万加元。

2003 年达尔豪斯大学授予顾建军博士“工程学院杰出教育奖”和“友好教授奖”的殊荣。2004 年世界电子与电器协会授予顾建军博士杰出电器工程协会学生分会主席奖。2005 年加拿大新斯科舍省授予顾建军博士省杰出青年奖。2014 获 IEEE ICIA/ICAL 最佳论文奖, I E E E 加拿大大西洋地区 Murugan Memorial 等奖。顾建军博士 2014 年当选加拿大工程学院院士。2016 年当选为加拿大工程院院士。曾任 IEEE 加拿大首位华人主席 2020-2021。



# Dr. Jason Gu (2024)

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## EDUCATION

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**Ph.D. Degree(2001):** Electrical & Computer Engineering, University of Alberta, Canada

**M.Sc. Degree(1995):** Biomedical & Instrumentation Eng., Shanghai Jiaotong University, China

**B.Sc. Degree(1992):** Electrical Engineering & Information Science (Special Class for the Young Gifted, 1987-1990), University of Science and Technology of China, China

## RESEARCH PROJECT

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- 2024, Wearable Technology for Monitoring Neurological Conditions in Neurodegenerative Disorders, *Mitacs*, \$30,000, PI.
- 2023-2030, Qanittaq Clean Arctic Shipping, *CFREF*, \$1000,000, CO-App.
- 2023-2028, Optimal State Convergence Controllers with Graph Communication for Tele-operation, *NSERC/Discovery Grant*, \$235,000, PI.
- 2023, Development of a smart wearable device using sensor fusion for human motion tracking, *Mitacs*, \$15,000, PI.
- 2021-2022, Diagnostic and Monitoring Tool for Amputee Patients Wearing a Prosthesis, *Mitacs*, \$10,000, PI.
- 2019-2025, Interdisciplinary Marine Engineering Research and Industrial Training, *NSERC CREATE*, \$1,650,000, PI.
- 2017-2022, Sensing and Control of Multiple Mobile Manipulator, *NSERC/Discovery Grant*, \$235,000, PI.

## PUBLICATION SAMPLE

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- Fischa B. Tesema, Jason Gu, Wei Song, Hong Wu, Shiqiang Zhu, Zheyuan Lin, Min Huang, Wen Wang, and Rajesh Kumar, "Addressee Detection Using Facial and Audio Features in Mixed Human-Human and Human-Robot Settings: A Deep Learning Framework", *PP. 25-38, IEEE Systems, Man, and Cybernetics Magazine*, 2023.
- Yingkang Xie, Qian Ma, Jason Gu and Guopeng Zhou, "Event-Triggered Fixed-Time Practical Tracking Control for Flexible-Joint Robot", *IEEE Transactions on Fuzzy Systems*, page 1-10, June 10 2022.
- Ruiqi Fu, Yifeng Chen, Yongqi Huang, Shuping Chen, Feiyan Duan, Jiewei Li, Jianhui Wu, Dongmei Jiang, Junling Gao, Jason Gu, Mingming Zhang and Chunqi Chang, "Symmetric Convolutional and Adversarial Neural Network Enables Improved Mental Stress Classification from EEG", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2022.
- Muhammad Sabih, Muhammad Umer, Umar Farooq, Jason Gu, Marius M. Balasc, Muhammad Usman Asad, Khurram Karim Qureshi, Irfan A. Khan and Ghulam Abbas, "Image processing based fault classification in power systems with classical and intelligent techniques", *Journal of Intelligent & Fuzzy Systems*, 2022.
- Hao Chen, Rui Nie, Jason J. Gu, Shuang Yan, and Renming Zhao, "Efficiency Optimization Strategy for Switched Reluctance Generator System with Position Sensorless Control", *IEEE Transactions on Mechatronics*, 2020.
- Shang Shi, Jason Gu, Shengyuan Xu and Huifang Min, "Globally Fixed-Time High-Order Sliding Mode Control for New Sliding Mode Systems Subject to Mismatched Terms and Its Application", *IEEE Transactions on Industrial Electronics*, 67(12), 10776-10786, 2020.
- Shang Shi, Jason Gu, Shengyuan Xu and Huifang Min, "Variable-Gain Second-Order Sliding Mode Controller With Globally Fixed-Time Stability Guarantees", *IEEE Transactions on Circuits and Systems-II: Express Briefs*, 67(8) 1414-1418, 2020.

