

Research Interests	Mobile Robots, Disaster-response Humanoid Robots, IoT & Networks, Machine Learning	
Education	Guangdong University of Technology	Guangzhou, China. PR
	- B.Eng., Department of Electrical Engineering - GPA: 3.3/4.0 - Research Topics: Humanoid Robots, Mobile Robots - Area of Study: Power System, Robotics, Control Theory & Engineering	09/2016 - 06/2020
	Northeastern University	Boston, MA, USA
	- Department of Electrical & Computer Engineering - GPA: 3.33/4.0 - Area of Study: Internet of Things	06/2020 - 08/2020
Publications	Conference [1] Zhifeng Huang, Zijun Wang, Jiapeng Wei, Jingtao Yu, Yuhao Zhou , Pihao Lao, Xiaoliang Huang, Xuexi Zhang, & Yun Zhang, "Three-Dimensional Posture Optimization for Biped Robot Stepping Over Large Ditch based on a Ducted-fan Propulsion System," in IROS'20 , [PDF] [Video]	
Research Experience	Robotics Lab 409 , Guangdong University of Technology Student Researcher PI & Supervisor: Prof. Zhifeng Huang	10/2018 - Present
	<ul style="list-style-type: none">Conducted experiments of utilizing the optimized genetic algorithm to minimize the thrust by optimizing the humanoid robot <i>Jet-HR1</i>'s posture during 3D stepping to accomplish large obstacle-crossing motion [1]Conducting research on flying humanoid robot <i>Jet-HR2</i> with optimized mechanical, embedded system, and control strategy to accomplish versatile dynamic motions	
Research Projects	Mobile Robot: Ares	10/2017 - 01/2018
	<ul style="list-style-type: none">Designed and built the mechanical and circuit system of the 15kg mobile robot, alleviated the gyroscopic inertia in manipulation by optimizing the design of the drum spinner weapon systemLead a team of 3 & as the manipulator, participated in the first robot combat competition series in China	
	Humanoid Robot: Jet-HR1	10/2018 - Present
	<ul style="list-style-type: none">A prototype disaster-response humanoid robot innovatively utilized the ducted-fan propulsion system for balancing the gravitational moment [Video]Conduct experiments based in 2D & 3D gaits to accomplish large obstacle-crossing (97% of the robot's leg length, and a height difference of 100mm between two sides)	
	Jet-Powered Flying Humanoid Robot: Jet-HR2	01/2019 - Present
	<ul style="list-style-type: none">A 12 DoFs disaster-response humanoid robot with 6 ducted-fans installed at the pelvis and feet to have the capacity of flight, contact locomotion, and manipulationIndividually designed the mechanical system of the robot with special modular joint featured with lightweight, high precision, and high torqueImplemented dynamic simulations of the prototype robot in PyBulletLed the design, fabrication, and experiments of prototype robot such as jet-jumping, hovering, and flying motionsAlgorithm focused on <i>Whole-Body Loco-Manipulation</i> and <i>Aerial Manipulation</i>	

Advanced Course Projects	TMP1170 Electrical Testing Technology (Guangdong U of Tech) 18 Fall Semester Designed and implemented a high-precision speed detection system for electro-hybrid powered vehicles. Showed that the accuracy of the velocity testing system meets the requirement with a tolerance of less than $\pm 1\text{RPM}$ [Highest Score among 269 students]
	EECE7398 ST: Building Blocks for IoT (Northeastern U) 20 Summer Semester Implemented a correlation power analysis (CPA) attack and recover a full round key used in an AES encryption process; Designed, implement and test an orthogonal frequency division multiplexing (OFDM) receiver in the modern wireless communication system [Score 87.8%, B ⁺]
Professional Experience	CloudMinds Robotics Co., Ltd. Beijing, China. PR Hardware Engineering Intern, R&D Department 07/2019 - 08/2019 <ul style="list-style-type: none"> Hardware test and optimized modification on the cloud <i>Pepper</i> humanoid service robot manufactured by <i>SoftBank Robotics</i>
Awards	Student Awards Guangdong University of Technology <ul style="list-style-type: none"> Outstanding Bachelor's Degree Graduation Thesis 06/2020 <i>System Design of Flying Humanoid Robot</i> [PDF] (Top 5%)
	Contest Awards FMB Competition Championship Organizer: <i>Shanghai Jizhan Sports & Culture Development Co., Ltd.</i> <ul style="list-style-type: none"> The first robot combat series competition held in China, as Team Leader 3rd Place, Jiaxing, Autumn Season 10/2017 4th Place in Domestic Group, Sanya, All-Star Invitational 01/2018 Top Eight in International Group, Sanya, All-Star Invitational 01/2018 The 16 th Challenge Cup Organizer: <i>Ministry of Education of China</i> <ul style="list-style-type: none"> National College Student Curricular Academic Science and Technology Works Competition, as Team Member 3rd Award, School-level 03/2019 College Students' Innovative Entrepreneurial Training Plan Program Organizer: <i>Ministry of Education of China</i> <ul style="list-style-type: none"> School-level funded project, NO. XJ2019118451521, as Team Leader 03/2020 [Project Completed with Good Evaluation] State-level funded project, NO. 201911845010, as Team Member 03/2020 [Project Completed with Outstanding Evaluation]
Skills	Design - Auto CAD, SolidWorks Programming - Python, MATLAB