Chen Zeming

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EDUCATIONAL BACKGROUND

South China University of Technology (SCUT) 09/2019-06/2023

Bachelor of Engineering in Electrical Engineering & Automation, GPA: 3.49/4

- **Major Courses:** Digital Electronic Technique, Power System Analysis, Power Electronics, Analog Electronics, Single-chip Microcomputer Design Technology
- **Honors:** SCUT Third-prize Scholarship in the academic year of 2019-2020
  SCUT Second-prize Scholarship in the academic year of 2021-2022

The Hong Kong University of Science and Technology (Guangzhou) Virtual Camp Project 2022.07-2022.08

PATENTS

- Guangfeng Wu, Zeming Chen, Yi Qin ***A Somatosensory Multi-Motor Low-Level Drive System****(2022)*
- Kexin zhao, Yi Qin, Junwei Liang, Zeming Chan ***An Intelligent Scheduling Platform Based on Intelligent 3D Detection***(2022)
- Guangfeng Wu, Jinglan Xu, Zeming Chen ***A Clamping Mechanism Based on the Wire-Pulling of Rack and Pinion and Gas-Electric Hybrid Dynamics***(2022)

PROJECTS

Biomimetic Robot Fish Based on Artificial Fish Swarm Algorithm, *AI Future Lab, Leader* 2021.04 - 2022.02

- Designed the mechanical structure of the robot fish and the topology of the hardware and connected the wires
- Realized the control of the robot fish's basic motions in the water by using FreeRTOS

Somatosensory Interactive Paddle Wall, *DJI Student R&D Project, Leader of Firmware System 2021.09 - 2021.12*

- Designed the topology of the paddle wall's hardware and finalized the wiring diagram
- Developed a multi-motor control algorithm and a multimodal firmware system
- Devised a Kinect-based firmware package

Biomimetic Mechanical Elephant Trunk Ecological-Restoration Robot Based on Wire-Pulling Technology

The National College Students' Innovation and Entrepreneurship Training Program, Leader 2022.03 - 2022.07

- Analyzed elephant trunk's motions based on the forward kinematics and created a model
- Developed an embedded software system and controlled elephant trunk's motions with the finite-state machine
- Determined the plan, assigned tasks, and arranged the project schedule

COMPETITIONS

RoboMaster, *National First Prize* 2020.05 - 2021.09

- Utilized the cascade control system to realize the movement of the superstructure of the engineering robot based on the CAN and serial communication protocols
- Laid out the electronic components of the engineering robot and designed its wiring connection
- Maintained the CANopen of the SCUT Robotlab Middlewares Layer Library

"SinOne Cup" Intelligent Technology Competition, *SCUT Second Prize* 2021.10 - 2021.11

- Built hardware based on IOT Touch Roller Slider Intelligent Regulation Development Board of SinOne's SC95F chip and established the code framework and dot-matrix display in EasyCodeCube
- Tested the communication protocol using Tuya platform's Wi-Fi module, developed a mobile App, and realized communications with the demo board

The 10th "Weishi Cup" National College Student Machinery Innovation Design Contest, *National Second Prize* 2022.03 - 2022.08

- Selected hardware and designed the PCB based on the mechanical structure
- Controlled the robot's motion attitude and planned the path

The 15th National Social Practice and Science Competition on Energy Conservation and Emission Reduction for College Students , *National Third Prize* 2022.05 - 2022.07

- Designed the PCB and hardware topology
- Achieved motor position control based on the BLDC motor control algorithms of STM32 chips
- Achieved multithreading task control based on FreeRTOS

INTERNSHIP

Botai Robotics Co., Ltd 2021.01-2021.03，2021.07-2021.09

- Project Management: formulated a plan to design a quadruped robot, assigned tasks, arranged the project schedule, instructed members in designing embedded software, and tracked the project progress
- Software Design: designed the embedded hardware of a service robot and finalized the wiring diagram

OTHER INFORMATION

Language Proficiency: English (fluent), Mandarin (native language), Cantonese (native language)

Programming Skills: C, C++, Python,

Technical Tools: VsCode, Keil5, STM32CubeMX, Vrep, AD, Soliwork

Relevant Knowledge: FreeRTOS, STM32 single-chip microcomputer, UART communication, CAN protocol, PID control algorithm