



EDUCATION

University of Electronic Science and Technology of China

B.Eng., Embedded System, School of Information and Software Engineering

GPA: 3.86/4.00 | TOEFL: 106

Awards: 2nd Prize of National Undergraduate Electronics Design Contest (2021), Outstanding Student Scholarship (2020,2021), National Endeavor Scholarship (2020,2021)

Sep 2019 - Jun 2023

Chengdu

INTERNSHIP EXPERIENCE

DJI Innovation Company - Flight Systems Intern

Jan 2022 - Present

S-level Employee Performance Assessment | 2023 Campus Recruitment SSP Offer

Engineering Efficiency Team (Leader: Norman.li)

- DevOps: CI pipeline & efficiency tools development and maintenance.
- Compilation system: Compilation acceleration (Flight system firmware 30min->5min). Compilation framework design.
- Technical pre-research & import: Cross-arch virtualization, Binary integration, Self-test toolkit for embedded developer.

Pre-research Team (Leader: yi.lin)

- Automotive-drone collaboration: Realize a demo of landing on a moving platform below 30km/h. Independently implement marker-based positioning on DJI Mavic 3.

PROJECT EXPERIENCE

Quadcopter - Curriculum design

Sep 2020 - Dec 2021

Independent research and development

- PCB design and hardware subsystem construction.
- RTOS migration, uCOSII to CM3 kernel migration, including bootloader, task scheduling, context switching etc.
- Peripheral driver development, IIC, USART, ADC, TIM, SPI etc. and sensor drivers.
- Algorithm derivation and implementation. IMU error analysis and elimination, data filtering, pose estimation(EKF, Madgwick Orientation Filter, Mahony Orientation Filter), PID controller etc.

VSLAM Quadcopter - 2021 National Undergraduate Electronics Design Contest

Jun 2021 - Sep 2021

Team leader / Software developer

- ORB_SLAM application and optimization, algorithm parallelization optimization on NVIDIA Jetson platform, using RGB-D camera to realize synchronous positioning.
- Cross-Platform communication with ROS.
- Design and implementation of communication protocol on flight control system.

Others

Sep 2020 - Sep 2021

Independent research and development

- Two-wheel balance trolley, pose estimation and PID controller - Electronics Design Contest practice
- Target recognition & automatic aiming system, CUDA optimized image processing and TensorRT optimized SSD-MobileNet - Electronics Design Contest practice
- Socket Interphone, Linux network programming - Computer network course design

RESEARCH INTERESTS

- Real-time VSLAM, Large-Scale Swarm SLAM, Semantic SLAM
- Motion Planning (Path Planning / Trajectory Planning)

PROFESSIONAL SKILLS

- Language: C/C++, Python, ARM ASM, CUDA, Shell, CMake, Makefile, Groovy, Markdown.
- OS: Subsystem of Linux kernel (SCHED, MM, VFS, NET, IPC). Design, implementation and transplantation of RTOS.
- Embedded platform: Cortex-M(STM32/TI), Cortex-A(Raspberry Pi/DJI Eagle), Tegra(NVIDIA Jetson).
- DevOps for robotics: Continuous integration, deployment, simulation, onboard-test and so on.
- Computer architecture: compilation, linking, loading, network, algorithm and computer underlying principle.
- Professional accomplishment: Good at searching information, asking questions wisely, efficient learning, team cooperation, communication and contract spirit.

SUMMARY

I'm highly interested in the field of robotics. During my undergraduate time, I keep doing research and study on Quadcopter, from which I build a solid engineering ability and enhance my understanding about embedded system, besides I also learned some basic skills of research in robotics through this process. I have raised these capabilities to prepare further research in this area, and I hope I would do some work in the future to push it forward.