Haoji Bian

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EDUCATION

University of Wisconsin-Madison Jan 2021 - Dec 2023

- Bachelor of Science in Computer Science, Data Science
- GPA: 3.97 / 4.00
- Honor: Dean's List for Three Consecutive Semesters

Related Courses

Machine Organization, Digital Systems, Data Structures & Algorithms, Database Management Systems, Operating System, Computer Network, Introduction to Artificial Intelligence

COMPUTER SKILLS

- **Programming Languages:** C/C++, Java, SQL, HTML, R, Python, Assembly Language
- **Control Algorithms:** PID, Reinforce Learning Control in Pytorch in Python
- **Embedded Programming Knowledge:** GPIO Interface, I2C, SPI, UART, Microprocessors
- **Operating Systems & Version Control:** RTOS, UNIX, Linux, SVN, Git, Docker

WORKING EXPERIENCES

Institute of Automation, Chinese Academy of Sciences Beijing, China

Undergraduate Research Assistant July 2021 - Sep 2021

- Used Python packages, including Pandas, Numpy, and Pytorch to build a DQN network in a robot-system simulator, monitoring and collecting the data from the gravity sensors and DC motors.
- Managed the motors with signals generated by the neural network and made robot keep standing.
- Collected 10 training datasets and 2 test datasets and implemented them with SQLite to improve training and test efficiency.

Hikvision Co., Ltd Hangzhou, Zhejiang, China

Embedded Software Development Sep 2020 - Jan 2021

- Developed an emergency detecting feature on an ARM architecture Dashboard Camera using C in a Linux system. Managed communications with other parts using CAN and I2C.
- Maintained and updated over 10 different versions of modifications with teammates using Git, and 3 versions of modifications were accepted and committed.
- Implemented Python test scripts to automatically generate debug logs information, quickly locating issues and increasing debug efficiency.
- Discovered and reported 4 technical issues when testing the devices using simulating videos as the input stream, helping hardware development groups to improve robustness of signal transmission.

ACTIVITY & LEADERSHIP EXPERIENCES

Robomaster Combat Madison, WI

Firmware Project Team Leader Jan 2022 - May 2022

- Implemented an STM32 microprocessor with an RTOS on a four-wheeled robot. Managed its communications with multiple sensors, including an accelerometer and motors using CAN.
- Planted four independent DC motors on wheels with a PID algorithm to control the motion using PWM signals. Connected it with a Linux-based master device that could send movement instructions using CAN and debugging with UART.