Benson Huang

Firmware Engineer | Embedded Systems | Control & AI

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PROFILE

Firmware engineer focused on embedded development, intelligent control, and data-driven fault diagnosis. Experienced in translating hardware and control requirements into testable software and engineering workflows.

SELECTED PROJECTS

Bearing Fault Diagnosis - Designed a workflow using STFT, CWT, and EMD signal transformations; compared 1D, 2D, and dual-stream CNN architectures and explored SVM classification layers.

PLC Sorting System - Implemented a Siemens S7-1500 and Bytronic-kit sorting workflow with multi-sensor detection, PID-controlled heating, HMI monitoring, and fault alerts.

OpenMV Tracking Gimbal - Developed an embedded vision gimbal through PCB integration, mechanical assembly, colour and shape recognition, and control-signal output.

EXPERIENCE & EDUCATION

Firmware Engineering	Zhejiang Huineng Electronics - smart-meter functions, EEPROM self-test, display/indicator control, test environments, and Bluetooth-related development.
MSc	University of Sheffield - Advanced Control and Systems Engineering; research in fault diagnosis and control strategy design.
BEng	Zhejiang University of Technology - Automation.

TECHNICAL TOOLKIT

C, Python, STM32, OpenMV, GPIO, USART, IIC, CAN, Keil, STM32CubeMX, STFT, CWT, EMD, CNN, SVM, PyTorch, TensorFlow, S7-1500, TIA Portal, HMI, MPC, Webots.

Updated July 2026