Po (Eric) Peng

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Education

University of Washington | GPA 3.75 / 4   09/2025 – 06/2027
M.S. Electrical and Computer Engineering   Seattle, WA
- Coursework: High-Performance Computer Architecture, The Hardware/Software Interface, Computer Vision

National Taiwan University of Science and Technology | GPA 3.92 / 4.3   09/2018 – 08/2020
M.S. Electrical Engineering (Mobile Communication Specialization)   Taipei, Taiwan
Chang Gung University | GPA 3.7 / 4.0   09/2014 – 06/2018
B.S. Electrical Engineering, Division of IC Design   Taoyuan, Taiwan

Skills

- **Programming Languages**: C/C++, Python, Java, Shell Scripts, JavaScript, Verilog
- **Computer Architecture & Systems**: RISC-V, Manycore Architecture, Memory Hierarchy, Network-on-Chip (NoC)
- **Embedded Systems**: Linux kernel, Zephyr, MCU, Bootloader
- **Protocols**: TCP/IP, I2C, UART, LoRa, Ethernet, Zigbee, Modbus, CAN bus
- **Software Development**: GitLab CI/CD, Docker, Jira, Git, SQLite, Makefile, SDLC

Work Experience

University of Washington, Sensors, Energy, and Automation Laboratory (SEAL)   01/2026 – now
Embedded Software Developer   Seattle, WA
Designed embedded firmware and sensing systems for an autonomous gas leak detection platform in industrial environments
- Developed ESP32-based firmware for clamp-on vibration sensing nodes, handling real-time data acquisition and control
- Implemented reliable long-range LoRa communication with ACK and CRC for industrial deployments
- Integrated on-node signal processing and ML-based anomaly detection to enable real-time leak localization and alerting

Moxa - Global Leader in Industrial Connectivity (No. 1 in Serial Communication, Top 3 in Industrial Ethernet)   06/2021 – 10/2024
Embedded Software Engineer - R&D   Taipei, Taiwan
Designed embedded Linux and bare-metal firmware, delivering robust, user-friendly, world-class industrial connectivity solutions

  Protocol Gateways (Linux) - Achieved USD 3M/year revenue with +10% YoY growth
  - Led modularization of the IEC 60870-5-101/104 protocol stack for MGate 5192, significantly reducing integration time for new products by over 50% through close collaboration with UI/UX, PM, and SQA teams
  - Implemented a proprietary CAN protocol module from scratch, covering main communication, backend infrastructure, data exchange, diagnostics features, and all related peripheral software modules
  - Improved the RESTful library for MGate 5000 series via IPC-based design, reducing API development time by 20%
  - Designed the SD card backup module for MGate 5000 series, independently resolving issues via Linux kernel analysis

  Media Converters (MCUs)
  - Led the full-cycle software development of Ethernet-to-fiber Converter, coordinating with cross-functional HW, PM, and SQA teams from project kickoff to successful market launch
  - Resolved communication issues for Japanese clients on CAN-to-fiber Converter by tracing MCU code with specifications

Projects

High-Performance Parallel Computing on RISC-V Manycore Architecture   01/2026 – now
- Optimized parallel C++ kernels on a 2000-core RISC-V manycore system, achieving significant speedups through architecture-aware parallelization and latency hiding
- Managed explicit data movement and synchronization in a software-managed memory hierarchy without cache coherence
- Profiled and analyzed bottlenecks using cycle-accurate simulation, identifying compute, memory, and NoC limitations

RTOS Implementation   09/2018 – 01/2019
- Modified the µC/OS-II kernel scheduling to implement and evaluate various scheduling algorithms

Extracurricular Activities

University of Washington   09/2025 – now
FIRST Robotics Mentor   Seattle, WA
- Mentored students in electronics, sensors, wiring, and software framework design, emphasizing PID control systems, Java programming, and computer vision