Po Peng

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PROFESSIONAL EXPERIENCE

Moxa | *Embedded Software Engineer - R&D* Taipei, Taiwan
Languages: *C, Shell Scripts, HTML, JavaScript* **Jun. 2021 – Oct. 2024**
Technologies & Tools: *Linux, TCP/IP, SQLite, Makefile, I2C, UART, GitLab(CI/CD pipelines), Docker, Jira*

- Protocol Gateways (based on Linux):
  Achieved USD 3M/year revenue with +10% YoY growth (2021 - 2024)
  - Led modularization of the IEC 60870-5-101/104 protocol stack for MGate 5192, reducing integration time for new products by over 50% through collaboration with front-end, PM, and SQA teams
  - Built a customized full-stack solution for MGate 5216, enabling customer onboarding and reducing debugging time between software R&D and clients by over 90%
  - Improved the RESTful library for the MGate 5000 series using an IPC-based design, reducing API maintenance and development time by 10%
  - Developed unit tests and valgrind scripts for MGate 5000 series software modules integrated with GitLab CI, enhancing system stability and enabling early detection of memory issues with 90% test coverage
  - Co-developed the SD card backup module with the Linux kernel team and independently resolved issues through kernel source code analysis
- Media Converters (based on MCUs):
  - Led the software development of IMC-P21A-G2 (Ethernet-to-fiber) from project initiation to market launch, collaborating with HW, PM, and SQA teams
  - Resolved sample point and communication issues for Japanese clients using ICF-1171I (CAN-to-fiber)

EDUCATION

University of Washington Seattle, WA
M.S. Electrical and Computer Engineering **Sep. 2025 – June 2027**

National Taiwan University of Science and Technology | GPA: 3.92/4.3 Taipei, Taiwan
M.S. Electrical Engineering (Mobile Communication Specialization) **Sep. 2018 – Aug. 2020**

Chang Gung University | GPA: 3.7/4.0 Taoyuan, Taiwan
B.S. Electrical Engineering, Division of IC Design **Sep. 2014 – Jun. 2018**

PROJECTS

Analysis of Call Admission Control Schemes for Secondary Users in CRN – *M.S. Thesis* **Sep. 2019 – Aug. 2020**

- Proposed a novel access mechanism for cognitive radio networks (CRN), combining spectrum leasing, channel aggregation and hand-offs to improve spectrum utilization, achieving lower user delay and higher throughput

Intelligent Curtain System – *Undergraduate Capstone Project* **Jul. 2016 – Jun. 2017**
Award: first place in the final project exhibition

- Created an intelligent curtain system using SmartServer and Zigbee sensors with Power Line Communication, enabling automatic adjustment based on illumination levels
- Designed and implemented a curtain control PCB using D flip-flops, BJTs and RLC components, completing the entire process from circuit design to soldering to ensure seamless system integration
- Programmed Zigbee firmware to ensure accurate storage of temperature and brightness data in the SmartServer

Knowledge Discovery in Database (KDD) Cup Contest **Feb. 2019 – Jun. 2019**
Result: weighted F1-score of 0.6884 on the test set, close to the first-place team's score of approximately 0.7

- Developed machine learning workflows in Python, including preprocessing, feature engineering, and model training, to predict Baidu Map users' preferred transportation modes using 500,000+ data points

RTOS Implementation **Sep. 2018 – Jan. 2019**

- Modified the µC/OS-II kernel scheduling to implement and evaluate various scheduling algorithms, including Earliest Deadline First Scheduling, Non-Preemptible Critical Sections and Priority Ceiling Protocol

FPGA System Design Lab **Sep. 2017 – Jan. 2018**

- Implemented a 2D LED dodging game using Verilog on an FPGA Development Board