SUWEI YANG (Software/Firmware engineer)
Personal website
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Skills

- **Programming languages**: C/C++(3-4 years), Python(1-2 years)
- **Tools**: GDB, UART, Logic analyzer, ICE, JTAG, Pytorch, Numpy, VSCode, Git, Script, QEMU, Ubuntu
- **Knowledge**: Firmware development, Operating system, Real-time operating system, Memory architecture, Object-oriented programming, Scheduling algorithms, Signal processing algorithms, Debugging

Work experience

- **Silicon Motion Technology Corporation** — Hsinchu, Taiwan
  SSD firmware Engineer — May. 2020 – Nov. 2022
  - Solve issues from internal tests and customer tests.
  - Program and erase fail handling verification. (Kingston NV2 (PCIE))
  - Read, Raid, and Debug flow presentation. (Kingston NV2 (PCIE))
  - RAID engine validation and MPISP (boot code) verification on FPGA. (IC SM2259XT3 validation)
  - Turbo RAID implementation and verification **(rescue 6 planes retention data)**. (Crucial BX500 (SATA))
  - RDT(Reliability Demonstration Test) maintenance and development. (Crucial BX500 (SATA))
  - Tools: C, UART, ICE, JTAG, Logic analyzer, RTOS

Academic experience

- **University of Utah** — Salt lake city, Utah, USA
  Teaching Assistant - Probabilistic machine learning — Jan. 2024 – Apr. 2024
  - Release, grade assignments and office hours
- **University of Utah** — Salt lake city, Utah, USA
  Research Assistant – Independent study **(link)** — Aug. 2023 – May. 2024
  - Topic: Fractional Fourier neural operator(FrFNO) on partial differential equations
  - Author: **Su-Wei Yang**
  - Result: **92%(1D dataset), 55%(2D dataset), and 27%(3D dataset)** less error than FNO vanilla; **36%(1D dataset), 21%(2D dataset), and 16%(3D dataset)** less error than full mode FNO.
  - Tools: Deep learning, Signal processing, Numerical methods, Non-stationary random fields
- **National Taiwan University of Science and Technology** — Taipei, Taiwan
  Teaching Assistant - Embedded System software design — Mar. 2018 – Jun. 2018
  - Design, assess, and grade students' exams and projects
- **Papers** — Sep. 2017 – Aug. 2019
  - Topic: GPU Swap-aware Scheduler virtual memory management for GPU applications
  - Authors: **Su-Wei Yang**, Zhao-Wei Qiu, Ya-Shu Chen
  - Result: Improve **16%** performance in real cases.
  - Conference 2020 ACM/SIGAPP Symposium On-Applied Computing

  - Topic: Energy-Efficient Task Offloading for Time-sensitive Application in Fog Computing
  - Authors: Yu-Lin Jiang, Ya-Shu Chen, **Su-Wei Yang**, Chia-Hsueh Wun
  - Journal IEEE System Journal

Education

- **University of Utah** — Salt lake city, Utah, USA
  Master of Science in Computer Science — Jan. 2023 – Dec. 2024
- **National Taiwan University of Science and Technology** — Taipei, Taiwan
  Master of Science in Electrical Engineering — Sep. 2017 – Mar. 2020
- **RWTH Aachen University** — Aachen, Germany
  Exchange student, Electrical Engineering — Oct. 2019 – Mar. 2020
- **National Taiwan University of Science and Technology** — Taipei, Taiwan
  Bachelor of Science in Electrical Engineering — Sep. 2013 – Jun. 2017

Courses

- **Courses**: Artificial Intelligence, Advanced Operating System, Computer Architecture, Embedded system software design, Nature Language Processing, Operating System, Probabilistic Machine Learning, RTOS, Software Verification