Thomas Wang

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EDUCATION

- **National Yang Ming Chiao Tung University** — Hsinchu, Taiwan
  B.S. in Computer Science; GPA: 4.10/4.30 (Overall), 4.26/4.30 (Major) — *Sep 2019 – Jan 2023*
  - ○ **Course**: Core Course Scholarship (Top 5%) in **DS and OOP**, **Algorithms**, and **Computer Organization**
  - ○ **TA**: University-appointed one-on-one academic tutor for student-athletes in core CS courses
- **National Taiwan University** — Taipei, Taiwan
  M.S. in Computer Science; ECLab, Advisor: Prof. Chia-Lin Yang — *Sep 2023 - Present*
  - ○ **Course**: **CUDA Programming**, **Compiler**, and **RTOS**
  - ○ **TA**: Teaching Assistant for **Computer Architecture** in Fall 2023 and Fall 2024
  - ○ **Research**: Accelerating Test-Time Compute with a Consumer-grade GPU

COMPETITION AND HONORS

- **Academic Achievement Award (Fall 2019)**: Top 5% of class based on academic performance
- **ICPC Asia Taipei-Hsinchu Regional Contest (2020, 2021)**: Bronze Medal; represented NYCU
- **NCPC – National Collegiate Programming Contest (2021)**: Honorable Mention

EXPERIENCES

- **Trading Campaign Team, Appier** — Linux, Flask, K8s, Jenkins, Helm
  Backend Engineer Intern — *Mar 2022 – Jun 2022*
  - ○ Developed a full-stack automation platform to streamline internal campaign workflows, including both frontend and backend components.
  - ○ Maintained Kubernetes clusters and implemented CI/CD pipelines using Docker, Jenkins, and Helm.
  - ○ Collaborated with cross-functional teams and adopted Git-based workflows in an Agile environment.
- **Geocoding Team, Microsoft** — Linux, C#, Python, TensorFlow
  RD Intern — *Jul 2022 – Dec 2022*
  - ○ Designed and deployed a custom NLP model to correct misspelled addresses in Bing Maps, enhancing geocoding accuracy and user search relevance.
  - ○ Optimized the end-to-end model pipeline in the live service, reducing latency and improving system responsiveness.

PROJECTS

- **Raspberry Pi OS** — C, Bare-metal, OS
  - ○ Built an operating system kernel from scratch on the aarch64 board, including linker script, bootloader, UART shell, filesystem, and exception/interrupt handling from EL0 to EL3.
  - ○ Implemented a dynamic memory allocator (startup heap + buddy system).
  - ○ Validated the implementation of the operating system kernels using GDB and QEMU emulator tools.
- **SDR HDR Converter** — Rust
  - ○ Developed a lightweight image converter for HDR/SDR formats.
  - ○ Supported signal transforms (PQ, HLG, Gamma709), color space conversion (Rec.709, Rec.2020), and bit-depth quantization (8-bit, 16-bit).
- **Cuda/ROCm SGEMM Kernel** — cuda/ROCm, C++
  - ○ Implemented and progressively optimized SGEMM (single-precision matrix multiplication) kernels from scratch.
  - ○ Applied optimization techniques including global memory coalescing, shared memory tiling, register blocking, and vectorized access to approach cuBLAS-level performance.

SKILLS SUMMARY

- **Languages**: C, C++, Python, Rust
- **Tools**: Git, Docker, Shell Script, GDB, K8s, Helm, Jenkins, SQL
- **Platforms**: Linux, Win, Cuda/ROCm