



# Resume of Yuchen Tang

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🐙 GitHub Profile

🌐 LinkedIn Profile

## EDUCATION

- **Stony Brook University** 2024-2026(*expected*)  
*Master of Science in Computer Engineering*
- **University of Michigan - Ann Arbor** 2019-2022  
*Bachelor of Science in Engineering, Computer Science*
- **Shanghai Jiao Tong University** 2017-2019  
*Bachelor of Science, Computer and Electrical Engineering*

## EXPERIENCE

- **Huawei Technologies Co., Ltd.** 2022.09-2024.09  
*Operating System Engineer* Hangzhou, China
  - Increased RDMA scalability and performance by optimizing OpenUCX, an RDMA communication middle-ware
  - Enlarged memory nodes for Huawei's Taishan servers, using FPGA-based CXL 1.1 devices
  - Optimized Huawei's tiered memory system manager, **etmem**, using PEBS sampling, together with other features
- **Wonders Information Co., Ltd.** 2021.05-2021.08  
*Data warehouse maintenance(Internship)* Shanghai, China
  - Composed a Python script that parses text and updates the results to Apache Hive databases accordingly

## PERSONAL PROJECTS

- **Ethernet Network Driver Development for AMD AXI FPGA** 2024.10 - 2025.1  
*Stony Brook University, Advisor: Prof. Michael Ferdman*
  - Implemented both packet transmission and reception logic from scratch, 900+ lines of kernel code, supporting multi-fragment packet transmission and NAPI-based polling
  - Manipulated two ring buffers of hardware descriptors to ensure safe and complete DMA operations
- **RDMA communication middle-ware (openUCX) optimization** 2023.10 - 2024.05  
*Huawei Technologies Co., Ltd, Advisor: Dr. Yunfei Du*
  - Helped implementing XRC service type, efficiently bringing down QP numbers thus increasing RDMA scalability.
  - Helped resolving the Head-of-Line blocking problem with message slicing and finer credibility-based priority mechanism.
  - Evaluated our implementation based on both micro-benchmarks and real world applications.
- **Memory node expansion using FPGA-based CXL 1.1 devices** 2023.04 - 2023.12  
*Huawei Technologies Co., Ltd*
  - Observed the frequent page ping-pong caused by original, coarse-grained access bit checking method.
  - Developed a substitute kernel module that listens to fine-grained hardware access counter results.
- **Tiered Memory System Manager Optimization** 2022.12-2023.04  
*Huawei Technologies Co., Ltd*
  - The company's tiered memory system, **etmem**, identifies cold and hot pages and migrates them between tiers of memory to best exploit fast memory for performance and slow memory for capacity.
  - Replaced CPU consuming and time costly page table scanning with PEBS sampling.

## TECHNICAL SKILLS AND INTERESTS

**Languages:** C, bash, Python, Markdown, LaTeX

**Areas of Interest:** Memory Disaggregation(CXL, RDMA), Computer Networks, Distributed Storage Systems

## ACHIEVEMENTS

- **Future Star** 2023.05  
*Huawei Technologies Co., Ltd*
  - Awarded for successfully reducing CPU usage of the company's tiered memory system
- **China-US Young Maker Competition, Top 32 in Shanghai** 2018.04 - 2018.06  
*A submersible model based on bionics of manta ray*
  - Arduino programming for the demo that demonstrates the hydromechanics of manta ray