

Yinchen Ni

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🔍: Google Scholar Profile

🔗: <https://hamham223.com>

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EDUCATION

- **Shanghai Jiao Tong University Global College** Shanghai, China
M.S. Thesis Proposal: *Real-Time Scheduling on Heterogeneous Computing Architectures* Sep. 2024 - Mar. 2027
Research Interests: Real-Time Systems; Heterogeneous Computing; Operating System; Computing Architecture.
- **University of Michigan - Shanghai Jiao Tong University Joint Institute** Shanghai, China
B.S. in ECE, Minor in CS, DS; GPA: 3.82/4.0; Rank: 13/220 Sep. 2020 - Aug. 2024

SELECTED PUBLICATIONS

- Y. Ni, T. Ma, Y. Xu, J. Chen, Y. Ma, and A. Zou, "PAST: A Map-and-Navigation Approach for Real-Time and Throughput-Oriented Workloads in Embodied AI Systems," *2026 IEEE Real-Time Systems Symposium*.
- Y. Ni, J. Chen and A. Zou, "PARTs: Pre-Assembly Algorithm-to-Hardware Real-Time Orchestration for Edge Systems," *2026 International Conference on Computer-Aided Design*.
- Y. Ni, Y. Xu, J. Chen, J. Li, C. Gill, X. Zhang, Y. Jin and A. Zou, "MATCH: Real-Time Scheduling of Multiple and Parallel Data Copies in Heterogeneous Architectures," *2025 Real-Time and Embedded Technology and Applications Symposium*.
- Y. Ni, T. Ma, J. Chen, C. Yang, S. Ye, Y. Xu, Y. Jin and A. Zou, "HARD: Hardening Real-Time Scheduling and Analysis for Accelerator Enabled Computing," *2025 Real-Time and Embedded Technology and Applications Symposium*.
- Y. Ni, J. Zhu, Y. Jin and A. Zou, "RTHeter: Simulating Real-Time Scheduling of Multiple Task in Heterogeneous Architectures", *2025 Design, Automation and Test in Europe Conference*.
- Y. Xu, Y. Ni, T. He, R. Sun, Y. Jin and A. Zou, "Real-Time Scheduling and Analysis of Fixed-Priority Tasks on A Basic Heterogeneous Architecture with Multiple CPUs and Many PEs," *2025 IEEE Transactions on Computers*.

RESEARCH EXPERIENCE

- **Efficient Computing Hardware and System Lab** 🏠 Shanghai
Research Assistant, Advisor: Prof. An Zou Sept. 2022 – Present
 - **Real-Time Scheduling:** Develop scheduling and resource-management mechanisms for CPU-accelerator systems, including fine-grained accelerator sharing, and progress-aware runtime serving. [RTAS'25, RTSS'26]
 - **Timing Analysis and Optimization:** Design mathematical response-time analyses for segmented, self-suspending, and dependency-constrained workloads, and use timing guarantees to guide algorithm, hardware-mapping, and system-configuration decisions. [RTAS'25, ICCAD'26]
 - **System and Simulation Infrastructure:** Build extensible heterogeneous-system simulators for scheduler evaluation, design-space exploration, and learning- or agent-based policy optimization. [DATE'25]
- **SAVE: Bicycle Safety System** 🚲 🏆 Capstone Project
Team Lead, 5-member team Sept. 2023 – Dec. 2023
 - Built a Raspberry-Pi-based bicycle safety system integrating vehicle detection, distance estimation, and a real-time web interface; received the **Silver Award** at the institute design expo.

TEACHING AND WORKING EXPERIENCE

- **Teaching Assistant and TA Mentor, Global College** 🎓 Hybrid
Courses: *Intro to Programming, Data Structures, Honors Math, Discrete Math, Big Data* Sept. 2021 - Present
 - Led recitation classes and labs; Graded papers; Onboarded and mentored new TAs.
- **AI Platform Engineering Intern, Intel** 🏢 Shanghai
Contribute to BigDL: *fast, distributed, secure AI for Big Data on Intel hardware* Dec. 2022 - May. 2023
 - Enhanced CI/CD workflows and validated distributed AI training on Yarn/K8s clusters; Developed recommendation example codes; Released the corresponding toolkit with docker-compose, k8s, helmchart.

HONORS AND AWARDS

- Third Prize, Embedded System Software Competition (ESSC) Oct 2025
- Chinese National Scholarship (Top 2%) 2021, 2023, 2025
- Silver Award, UM-SJTU JI Capstone Design Expo (Top three) Dec 2023
- Annual Outstanding TA Award, UM-SJTU JI (Top five) July 2023
- Finalist, American College Math Modeling Competition (Top 2%) May 2022

STUDENT ACTIVITY

- **UM-SJTU JI Student Union - Tech Department**
Mechanical keyboard DIY workshop; Linux install party. March 2023 - Present
- **President of SJTU Piano Association**
Conduct offline Piano Concert opening for all SJTU students. June 2021 - July 2022

SKILLS SUMMARY

- **Languages:** Mandarin (Native), English (Fluent, CET6: 641, Toefl: 100, GRE: 319)
- **Programming:** C/C++ (linux, embedded), Python, Shell Scripting, CUDA, $\LaTeX$, Git, Docker