Tianhao Huang

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EDUCATION

SHANGHAI JIAO TONG UNIVETSITY
Shanghai, China

Undergraduate of Information Security

September 2021 – now

- **GPA: 3.9/4.3 Average Score: 90.53/100**
- **Core Courses: Linear Algebra 94; Data Structure 97.2; Calculus 98 ;**
  Thinking and Methodology in Programming(C++) 89;
  Algorithm (computational) complexity analysis 98.6;

PUBLICATIONS

- "An End-to-End Benchmarking Tool for Analyzing the Hardware-Software Implications of Multi-modal DNNs" . **Tianhao Huang**, Xiaozhi Zhu, and Mo Niu. 2024. SIGMETRICS Perform. Eval. Rev. 51, 3 (December 2023), 25 – 27.

- "MMBench: Benchmarking End-to-End Multi-modal DNNs and Understanding Their Hardware-Software Implications" . Xu, Cheng and Hou, Xiaofeng and Liu, Jiacheng and Li, Chao and **Huang, Tianhao** and Zhu, Xiaozhi and Niu, Mo and Sun, Lingyu and Tang, Peng and Xu, Tongqiao and others. 2023 IEEE International Symposium on Workload Characterization (IISWC). IEEE, 2023.

PATENTS AND SOFTWARE

- **MMBench:** End-to-End Benchmarking Tool for Analyzing the System and Architecture Implications of Multi-modal DNNs

RESEARCH EXPERIENCES

TAMING BEV-CENTRIC PERCEPTION ON DUAL-SOC FOR AUTONOMOUS DRIVING
SJTU

BEV-centric Perception for Autonomous Driving Sep. 2023 - Present

- Deploy BEV-centric networks on dual-SOC using RDMA communication
- Split networks into different TensorRT plan

CUSTOMIZED AND END-TO-END MULTI-MODAL BENCHMARKING TOOL FOR SYSTEM AND ARCHITECTURE IMPLICATIONS
SJTU

Benchmark for Multi-modal DNNs Jan. 2023 - Present

- Study different Multi-modal DNNs ' structures and analyze their CPU and GPU execution pattern
- Customize a set of multi-modal neural network workloads of different sizes at inference stage for evaluation.

COURSE PROJECTS

DESIGN A SYSTEM-LEVEL RESOURCE ACCESS AUDITING TOOL
SJTU
Jun. 2023 - Jul. 2023

- Design a system-level resource access auditing tool based on system call hooking

DESIGN A FORUM AND CHAT COMMUNICATION PLATFORM WEBSITE
SJTU
Sep. 2023 - Nov. 2022

- Design an online chat room/forum supporting group and private chat, adding friends and posting

DESIGN A MULTIFUNCTIONAL VIDEO PROCESSOR
SJTU

Feb. 2024 - Apr. 2024

- Design a multifunctional video processor with functions of editing, face bluring, watermark,etc.

AWARDS

- **First Place Winner in the Undergraduate category of the ACM Student Research Competition at SIGMETRICS 2023**
- **Second Place Winner of TCSC SCALE CHALLENGE at IEEE/ACM CCGRID 2024**
- **University's Scholarship Scheme for Undergraduate Students 2021/22**
- **University's Scholarship Scheme for Undergraduate Students 2022/23**
- **Mathematical Contest In Modeling Meritorious Winner 2023**
- **Shanghai Jiao Tong University-Winning Health Smart Medical Challenge Elite Award in the AI university group 2023**

SKILLS

LANGUAGE : Mandarin Chinese (native speaker), English (CET6 : 544)
COMPUTER : Microsoft Office, C++, python (CCF CSP : 355)