

Huy Dinh Tran

huydinhtran@ku.edu — +1 (814) 826-8581 — LinkedIn — GitHub — Website

EDUCATION

University of Kansas Ph.D Computer Science Advisor: Prof. Mohammad Alian (Cornell University)	08/2023 — Present
University of California, Riverside M.S. Computer Engineering Advisor: Prof. Daniel Wong	09/2021 — 03/2023
Pennsylvania State University B.S. Electrical Engineering	08/2017 — 05/2021

SKILLS

- **Language:** C/C++, Python, Bash, LaTeX, MATLAB
- **Software & Tools:** Git, gem5, GDB, Intel VTune, Intel CAT, Docker, OpenMP, GPGPU-Sim

EXPERIENCE

University of Kansas <i>Graduate Teaching Assistant</i> <ul style="list-style-type: none">• EECS 581: Software Engineering II	Lawrence, KS 08/2024 — Present
<i>Graduate Research Assistant</i> <ul style="list-style-type: none">• Implemented statistical sampling simulation methodology for cloud applications in gem5• Designed a specialized hardware thread for efficient data delivery of network packets in datacenters	08/2023 — 08/2023
Futurewei Technologies, Inc. <i>Research Intern</i> <ul style="list-style-type: none">• Simulating RISC-V CPU in Linux Full-System simulation mode using gem5• Cross-compiling binaries of SPEC CPU 2017 benchmarks to RISC-V for measuring the performance of CPU designs• Integrated SimPoint to create checkpoints at ROIs for speeding up the simulation while still representing the workloads	Santa Clara, CA 08/2022 — 09/2022

PROJECTS

Building custom GPU power models with AccelWattch <ul style="list-style-type: none">• Implemented a GPU power model of an NVIDIA GeForce GTX 1050 Ti using AccelWattch• Performed hardware profiling on real GPU to grasp the performance, real power, and hardware performance counters• Simulated benchmarks on GPGPU-Sim to estimate constant, static, dynamic power consumptions using power model• Achieved an average MAPE of 63.42% between simulated and real power results	Spring 2022 — Spring 2023
Sparse matrix-vector multiplication (SpMV) <ul style="list-style-type: none">• Implemented sequential and parallel versions using OpenMP of the Sparse Matrix-Vector Multiplication algorithm in C• Converted compressed sparse matrix formats from COO to CSR and CSC• Achieved speedup of 3.93x between parallel and sequential computations by using 8 threads	Fall 2022
Prefetcher using reference prediction table <ul style="list-style-type: none">• Improved a base instruction prefetcher algorithm in C++ by 5% using a reference prediction table• Ran benchmark trace files of various workloads on a hardware simulator for measuring and comparing performance	Fall 2021
8-Puzzle solver <ul style="list-style-type: none">• Implemented multiple tree search algorithms to solve 8-Puzzle in C++• Implemented Uniform Cost Search, A-Star Search with Misplaced Tile Heuristic and Manhattan Distance Heuristic	Spring 2022
Soccer matches prediction <ul style="list-style-type: none">• Implemented ML classification models in Python using scikit-learn and from scratch using NumPy and Pandas• Implemented models: Decision Tree, Naive Bayes, K-Nearest Neighbors, Logistic Regression• Achieved prediction accuracy of 81.25% using K-Nearest Neighbors	Spring 2022