Agam Kohli

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Relevant Experience

Graduate Software Engineer July 2023 – Present

Arm *Austin, TX*

- Support verification of architectural and micro-architectural features in ARM Cortex A, R, and M cores
- Develop CPU verification software in C++ and Python
- Document and deploy random test generation methodology

CS Research Fellow Sept. 2022 – Dec. 2022

Google *Remote*

- Selected to join competitive 12 week research program by Google Computer Science Research Mentorship Program (CSRMP) 2022B cohort.
- Worked 1:1 with a Google mentor on navigating Machine Learning and Compiler research with Apache TVM.
- Attended virtual networking events, career panels, tech talks, and information sessions about computing research opportunities.

AI Fellow Aug. 2022 – April 2023

University of Michigan *Ann Arbor, MI*

- Fused the basic safety messages from vehicles with bounding boxes from smart intersections in real time to potentially reduce unimpaired crashes by 90%.
- Validated AI inference data from smart intersection hardware in real time using Gaussian regressions with ground truth data from CAVs (connected and autonomous vehicles) sent through MQTT.
- Partnered with AI startup P3 Mobility to deploy our product in Ann Arbor intersections.
- Attended Entrepreneurship courses with Ann Arbor startups and global treks with high-impact companies in San Fransisco to discuss leveraging Entrepreneurship with AI.

Relevant Projects

Decaf Static Compiler | *C++, Compilers, Lex/Yacc* Jan. 2022 – April 2022

- Developed a static compiler for toy C-like language, Decaf, using C++.
- Front-end compiled to a flexible three address code IR using Lex/Yacc.
- Middle-end optimizations using Dead Code Elimination, Common Subexpression Elimination, Forward Copy Propagation.
- Back-end register allocation using Chaitin's Graph Coloring heuristic.

Street Fighter II AI | *Python, PyTorch, Reinforcement Learning, Conv. Net* April 2022

- AI based on Deep Q Reinforcement Learning and Convolutional Neural Network that plays SNES game Street Fighter II.
- Written using Python frameworks PyTorch for Reinforcement Learning and Convolutional Neural Network and Gym Retro for emulation.
- Wins 88% of matches compared to a random model that wins 23% of matches.

Education

University of Michigan Aug. 2020 – April 2023

Bachelor of Science in Engineering, Major in Computer Science *Ann Arbor, MI*

- Major: Computer Science
- 3.8/4.0 GPA
- Organizations: M-STEM Student Council Board, Michigan Data Science Team, Undergraduate Research Opportunity Program
- Coursework: Static/Dynamic Compilers, Computer Architecture, OS, ML, DS/Algorithms, CV, Web Systems

Technical Skills

Languages: C++, C, Python, ARM Assembly
Softwares: LLVM, Lex/Yacc, PyTorch, Apache TVM, Linux
Certifications: Scaled Agile Framework (SAFe) 5.0 Practitioner