LAURENCE KIM

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SUMMARY

Reliable and personable computer engineer with experience in object oriented programming, accelerated computer architecture, and machine learning, excelling in a fast-paced environment.

EDUCATION

Santa Clara University, Santa Clara, CA
M.S. Electrical Engineering and Computer Engineering (Digital Systems/ML)**, GPA: 3.72,** June 2024

Santa Clara University, Santa Clara, CA
B.S. Electrical Engineering and Computer Engineering**,** June 2022

TECHNICAL SKILLS

- Languages: Python, C++, C, Java, React
- Operating Systems: Linux, Unix, and Windows
- Web Technologies: Vim, Git, Visual Studio, Quartus, Vitis, MATLAB, Synopsys, Git, Slack, Trello
- Digital & Embedded Systems: FPGA & Microcontrollers
- Lab Test Equipment Proficiency (Multimeter, Oscilloscope, Soldering)
- Certifications: AWS Solutions Architect (In Progress)

RESEARCH EXPERIENCE

Santa Clara University, Santa Clara, CA October 2023 - Present

Machine Learning Graduate Research Assistant

- Quantize the memory space of Meta's Llama2 LLM model to 60% of its original size whilst balancing a maintained accuracy range of 85%. Develop novel greedy and dynamic optimization techniques, aiming to further enhance the efficiency of LLM models without significant loss in performance.
- Engineer hardware implementation of Multi-Stride SIPP2D in Verilog/ Vitis to benchmark its performance against other multistride capable architectures and validate theoretical models with real-world data.

WORK EXPERIENCE

Graduate Teacher Assistant

Department of Electrical and Computer Engineering, Santa Clara University August 2023 - Present

- Lead complex logic design labs and year-long regimen, fostering a collaborative team environment, and effectively communicating technical concepts to students, showcasing strong interpersonal skills.

HPC & ML Software Applications Engineer (Co-Op)

AMD, Santa Clara, California March 2022 - December 2022

- Created automation script enabling the customer's installation process of HPC/ML software development platform on different linux distributions in one command despite varying custom hardware/software specs.
- Developed automation framework testing by shifting from VMs to dockers for twofold scaling and pipelining.
- Implemented Jenkins CI/CD pipelines standardized requirements to promote efficient codebase development.

ACADEMIC PROJECTS

Multilayer CNN for Cifar100 Inference (Winter 2023)

- Developed a sophisticated image classification convolutional neural network incorporating advanced techniques such as swish activation, learn rate scheduler, and dropout to enhance generalization and prevent overfitting. This application was implemented using pytorch, python, keras, tensorflow, sklearn.

LEADERSHIP EXPERIENCE

Vice-Chair

IEEE: Institute of Electrical and Electronics Engineers, Santa Clara University April 2021 - March 2022

- Spearheaded projects and events to enhance member engagement and professional development, contributing to a significant increase in active participation and education in ML, embedded systems, and networking.

LANGUAGES

- Fluent in English & Korean. Proficient in Spanish.