



Santana Row, 3031 Tisch Way, 110 Plaza West, PMB#: 220, San Jose, CA 95128

Software Engineer (HW/SW co-design) As a Software engineer, you will help us develop advanced software stack to tackle challenges in image processing, vibration, and audio analysis, focusing on image recognition, scene classification, anomaly detection, and sound event recognition. You will help with AI compiler innovation, building software stacks and model performance/simulation/evaluation for our cutting-edge AI compute engines. Leading cross-functional hardware-software co-design efforts, you'll optimize performance and efficiency.

Required Qualifications:

- MS or PhD in Computer Science or EE.
- In-depth knowledge of CMOS image sensor processing, sound/audio DSP, audio codec standards, and pre/post-processing algorithms.
- Expert proficiency in C/C++ and Python, with strong Linux development experience.
- Advanced understanding of compiler architectures, optimizations, and frameworks such as MLIR.
- Proficiency with essential development tools, including Linux, Git, GCC, and LLVM, ensuring efficient workflows and high-quality results.
- Experience with AI accelerator hardware and software co-design is a plus.

Preferred Experience:

- Proven experience implementing and optimizing ML workloads on specialized hardware, including Custom ASICs, FPGAs, DSPs, and deep learning accelerators.
- Extensive background in compiler development, including infrastructure, kernel optimization, and workload management.
- Strong foundation in computer architecture, data structures, and system software.
- Proficiency in firmware and embedded systems, with the ability to design, develop, profile, and debug firmware across various microcontrollers.
- Experience with test automation infrastructure.
- Advanced Linux development skills, including application design, profiling, and debugging across multiple system layers.

Responsible for:

- Hands-on design and development of advanced AI compilers and runtime environments.
- Define and implement the software development process, including specifications, code development, SQA, and CI/CD.
- Collaborate closely with hardware engineering teams on co-design initiatives.
- Analyze neural network models to identify optimizations at the model, framework, compilation, and execution levels.
- Implement ML and DSP algorithms on specialized hardware.
- Porting of models to embedded hardware platforms (ASIC, FPGA, boards).
- Support field application engineers and customers in resolving software issues.