Software Engineer: Machine Learning & High Performance Computing

Location: Windsor, California

About Micro-Vu

Micro-Vu is an automation company specializing in 3D measuring and robotics. Micro-Vu engineers use technologies such as 3D software, image processing, precision mechanics and motion control, lasers, tactile probes, 3D sensors, machine learning and robotics to develop state-of-the-art solutions.

Micro-Vu designs and manufactures in a highly-automated factory at its campus in Windsor, California near the Russian River. Micro-Vu was established in 1959 and is privately-held. Those who work at Micro-Vu must be highly-motivated, capable and passionate about bringing the best possible products and technologies to the market.

Job Summary

Our company is in need of a motivated Computer Scientist or Software Engineer to work in the areas of technology research, algorithm design, and implementation on high performance computing platforms. Our goal is to develop leading technology in machine vision and AI to further automation and maximize efficiency of our scientific and industrial measuring products. We are innovating rapidly and have big goals for the future, so we're looking for someone who's ready to meet the challenges of the job and enable us to enjoy sustainable success.

- Design and implement machine vision techniques for feature detection, segmentation, and analysis
- Research and develop components for autonomous measurement system programming and operation
- Develop machine learning architectures as well as training and verification data sets
- Design and implement quasi-real-time sensor data processing pipelines to generate 3D point clouds
- Develop sophisticated calibrations for machine vision, contact, and non-contact 3D measurement sensors
- Perform statistical, principal component (PCA), factor (EFA), numerical stability, and uncertainty analyses
- General software engineering and embedded firmware responsibilities and cooperation
- Work closely with software, firmware, electrical, mechanical, and applications engineers on design requirements and planning

Education

MS or BS in Software Engineering, Computer Science, Computer Engineering, or equivalent. PhD considered.

Minimum Qualifications

- Strong aptitude for machine vision, image processing, and machine learning techniques
- Experience with CUDA, OpenCL, NEON, or other hardware acceleration frameworks
- Strong aptitude for applied mathematics including nonlinear optimization and statistical methods
- Strong aptitude for computer science, software engineering, architecture, and algorithms
- Extensive experience with numerical algorithm implementation and analysis
- Understanding of digital signal processing techniques and filters
- Proficiency with software development techniques and version control
- Problem-solving ability, quick learning, and attention to detail
- Ability to work independently and collaboratively in a team environment

Preferred Qualifications

- Experience with libraries such as PyTorch, TensorFlow, OpenCV, NumPy, MKL, ACL, LAPACK, R, etc.
- Experience with ARM-based SoCs or NVidia GPU and AI platforms
- Fluency in the C/C++ language, embedded design patterns, and common pitfalls

Experience in one or more of the following:

- Computational geometry, geometric fitting, or multiview geometry
- Camera sensor technologies, photonics, or optics
- Point Cloud Library (PCL)
- Stereoscopic reconstruction
- LiDAR or other 3D scanning technologies
- High speed digital communication and design