



JOB DESCRIPTION FOR HIRE

Title: Software Engineer

Position Description: The Overwatch Imaging Software Engineer will design and implement software and firmware to transform high-level user inputs and raw data into real-time customer intelligence. The full-stack Engineer will work hands-on with prototype and low-rate production automated imaging systems to develop and test embedded hardware drivers, real-time onboard image processing and artificial intelligence algorithms, and user interfaces.

Company Description: Rooted in the airborne technology cluster of Hood River, Oregon, Overwatch Imaging is changing the way time-critical intelligence is created. Overwatch works at the convergence of aerospace, imaging, AI, computer vision, autonomous systems and big data intelligence. Our automated imaging systems help life-saving agencies quickly find what they are looking for from the air, so they can focus less on the search and more on the best response. Internally, we strive to create the best environment for the amazing people who work here, and we thrive as a team through our shared passion for our mission.

Major Areas of Responsibility: *The ideal candidate will be strong in many of the following areas:*

- **Imaging Payload Embedded Software:** Supports code development, version management and testing for motion control, camera and IMU drivers, and data management. Balances code-change urgency and unit-to-unit customization with long-term software sustainability and code reuse.
- **Image Data Processing:** Develops image data processing software for real-time and post-flight automatic detection, visualization, rectification, mosaicking, and more.
- **User Interface:** Modifies elements of the Overwatch user interfaces and associated underlying datasets to simplify the user experience, accelerate mission planning and processing workflows, and expand payload compatibility with external systems such as ArcGIS and Google Earth.
- **Software Deployment:** Creates automatic build tools to build, test, and deploy new software versions and manage dependencies.



Required Knowledge, Skills and Abilities: *The ideal candidate will meet many of these requirements:*

- **Experience and Education:**
 - Formal education in software engineering, computer science, aeronautical engineering, robotics, optics or related fields.
 - Experience in airborne or space-based remote sensing and image processing; hands-on experience with mid-sized unmanned aircraft and/or airborne camera systems.
 - Academic or professional experience with image processing software, machine learning techniques, and/or autonomous systems.
 - Experience with device driver implementation and embedded system deployment.
 - Knowledge of multithreading, parallel programming, interoperability, and algorithm optimization.
 - Experience with version control software (Git)
 - 5+ years of experience with a Bachelor's degree, or
 - 2+ years of experience with a Master's degree, or a Ph.D degree.
- **Technical Competence:**
 - Programming in C, C++, C#, Python, CUDA, OpenCV, and MATLAB
 - Control Systems, IMU, and GPS/INS Hardware and Software
 - Linux Operating System on GPU-Accelerated Hardware
 - Machine Learning Model Training and Refinement
 - Software versioning and branch management
- **Character Attributes:**
 - Thrives in a dynamic, fast-paced small startup business environment
 - Highly motivated self-starter able to work independently and with a team
 - Collaborates well in a small team environment
 - Enjoys hands-on work and learning new skills
 - Eager to learn and solve real-world problems and accept new challenges
 - Takes pride in seeing new products reach operational use quickly

Location: This position is based in Hood River, Oregon, and requires occasional business travel and work in and around light aircraft. Some remote work flexibility is provided, and majority of time on-site is required. All applicants must be authorized to work on a permanent basis in the United States.