



# OVERWATCH IMAGING

## JOB DESCRIPTION FOR HIRE

**Title:** Automation Software Engineer

**Position Description:** The Overwatch Imaging Automation 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 real-time onboard image processing and artificial intelligence algorithms, embedded hardware drivers, image manipulation software, user interfaces, and data post-processing tools.

**Company Description:** Overwatch Imaging is changing the way airborne image-based intelligence is created. Rooted in the airborne intelligence technology cluster of Hood River, Oregon, Overwatch Imaging is revolutionizing human understanding of the world through computer vision-optimized sensing. Overwatch makes customized imaging payloads designed for mission-critical, automated remote sensing roles. Our products allow mid-sized UAS and general aviation aircraft to automatically detect small targets, collect precision survey maps, conduct autonomous search, and provide real-time image-based intelligence to users. Overwatch payloads feature autonomously gimballed cameras combined with onboard image processing and AI software, which we leverage to reduce operator workload, accelerate data processing workflows, and identify hard-to-find small signals from large datasets.

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

- **Image Data Processing:** Develops image data processing software for real-time and post-flight automatic detection, visualization, rectification, mosaicking, and more.
- **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.
- **User Interface:** Modifies elements of the Overwatch browser-based user interface 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.



- ***Electro-Mechanical Product Strategy:*** Contributes to early-stage product design and post-delivery product improvement by considering mechanical, electrical, and software-driven solutions. Helps develop near-term and long-term strategies for maximizing component flexibility and reuse while minimizing design cycle time and parts cost.

***Required Knowledge, Skills and Abilities:***

- ***Experience and Education:***
  - Formal education in electrical or mechanical engineering, computer science, robotics, or related fields.
  - Experience writing, compiling, implementing and testing software programs for Windows and Linux; experience with image processing software preferred.
  - Hands-on experience with aircraft or drones and with airborne imaging or remote sensing systems preferred.
  - 5/3/2+ years of relevant experience with BS/MS/Ph.D. degree.
- ***Technical Competence:***
  - Programming in C++, CUDA, Python, MATLAB, and Java and JavaScript.
  - Imagery manipulation and image processing techniques
  - Simulation and software testing
  - Hardware-software interaction
  - 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
  - Enjoys hands-on work and learning new skills
  - Eager to learn and solve real-world problems and accept new challenges
  - Takes pride in seeing work product reach the field

***Location:*** This position is based in Hood River, Oregon, and requires occasional business travel. All applicants must be authorized to work on a permanent basis in the United States.