# Computer Vision Engineer

As a computer vision engineer at FalconViz ([www.falconviz.com](file:///C%3A%5CUsers%5Csmithng%5CAppData%5CLocal%5CTemp%5Cwww.falconviz.com)), you'll be developing software to transform how we digitally map our world using drones. We are looking for a creative mind that has the understanding of the relevant theory, strong software development skills, and ability to efficiently and quickly solve complex problems that will push the envelope in 3D mapping. We are not simply looking for a programmer but a founding core team member that envisions oneself playing a long-term role in creating the next generation of 3D surveying and mapping.

### Responsibilities

* You'll develop creative computer vision and mapping software for a variety of FalconViz applications.
* You'll design and implement real-time estimation and mapping algorithms that are optimized, accurate, and integrated with the new sensors found on our drones.
* Implement and evaluate existing 3D reconstruction methods.
* Develop robust software for integrating new sensors and recording methods into the processing pipeline.
* Characterize and quantify the performance of the software
* Prototype your software solutions for aerial mapping.

### Requirements

* BS or MS in Computer Science or Electrical Engineering with a focus on Computer Vision
* High proficiency in C++
* Competence with computer vision libraries such as OpenCV, OpenVX, Matlab and PCL
* Fast prototyping skills, including comprehensive feature integration during all cycles of development and commitment to writing clean, well architectured code
* Hands-on experience with structure-from-motion and multi-view stereo techniques
* Experience in Cross-compiling GUI Interfaces (Qt preferably)
* Practical knowledge of machine learning, image processing, probability and statistics, and computer graphics
* Ability to thrive in a fast-paced, dynamic work environment.
* Collaborative, positive, team-oriented mindset
* Provide technical guidance to more junior team members

### Compensation

* Competitive Salary
* Housing and Benefits Included

## Application Software Engineer

As an application software engineer at FalconViz ([www.falconviz.com](file:///C%3A%5CUsers%5Csmithng%5CAppData%5CLocal%5CTemp%5Cwww.falconviz.com)), you'll be developing software to transform how we digitally map our world using drones. We are looking for a creative mind that has the understanding of the relevant theory, strong software development skills, and ability to efficiently and quickly solve complex problems that will push the envelope in 3D mapping and its digitization. We are not simply looking for a programmer but a founding core team member that envisions oneself playing a long-term role in creating the next generation of 3D surveying and mapping.

### Responsibilities

* You'll develop creative software tools for visualizing 3D point clouds and digitizing them into CAD models.
* You will be tasked with developing our core software tool to visualize all generated 3d reconstructions and integrate them with disperse raster and vector GIS datasets.
* You'll design and implement automatic and semi-automatic techniques for detecting surfaces, lines, corners, and segmenting buildings from 3D point clouds.
* Implement and evaluate existing visualization tools, model editing techniques, 3D segmentation, meshing, and extraction methods.
* Develop robust software with a user interface understandable to our CAD engineers.
* Characterize and quantify the performance of the software
* Prototype your software solutions for aerial mapping and digitization.

### Requirements

* BS or MS in Computer Science or Electrical Engineering with a focus on Computer Graphics
* High proficiency in C++
* Competence in computer graphics, CG middleware, and Cross-compiling GUI Interfaces (Qt) and graphics standards (specifically: OpenGL, WebGL, OSG)
* Fast prototyping skills, including comprehensive feature integration during all cycles of development and commitment to writing clean, well architectured code
* Practical knowledge of GIS, CAD/BIM software, SQL/NoSQL dbms
* Ability to thrive in a fast-paced, dynamic work environment.
* Collaborative, positive, team-oriented mindset
* Provide technical guidance to more junior team members

### Compensation

* Competitive Salary
* Housing and Benefits Included

# Graphics Software Engineer

As a graphics software engineer at FalconViz ([www.falconviz.com](file:///C%3A%5CUsers%5Csmithng%5CAppData%5CLocal%5CTemp%5Cwww.falconviz.com)), you'll be developing software to transform how we visualize our world from aerial data generated by our drones. We are looking for a creative mind that has the understanding of the relevant theory, strong software development skills, and ability to efficiently and quickly solve complex problems that will push the envelope in 3D visualization. We are not simply looking for a programmer but a founding core team member that envisions oneself playing a long-term role in creating the next generation of 3D surveying and mapping.

### Responsibilities

* You'll develop creative software tools for visualization and rendering of our final 3D point clouds and CAD models.
* You will be tasked with developing tools for asset management, visual analysis, virtual tours, and real-time rendering on a variety of graphics engines such as web-based WebGL apps, OSG, and Unreal4.
* Implement new and evaluate existing visualization tools, 3D stereo solutions, and our CAVE systems.
* Develop robust software with an easy intuitive user interface that a child can easily pickup and use.
* Characterize and quantify the performance of the software
* Prototype your software solutions in real life user studies.

### Requirements

* BS or MS in Computer Science or Electrical Engineering with a focus on Computer Graphics
* High proficiency in C++
* Competence in computer graphics and game design (specifically: OpenGL, WebGL, OSG, and Unreal4)
* Fast prototyping skills, including comprehensive feature integration during all cycles of development and commitment to writing clean, well architectured code
* Practical knowledge of stereoscopic visualization, HCI, tracking systems, HMD
* Ability to thrive in a fast-paced, dynamic work environment.
* Collaborative, positive, team-oriented mindset
* Provide technical guidance to more junior team members

### Compensation

* Competitive Salary
* Housing and Benefits Included

# Software Engineering Intern

As a Software Engineering Intern at FalconViz ([www.falconviz.com](file:///C%3A%5CUsers%5Csmithng%5CAppData%5CLocal%5CTemp%5Cwww.falconviz.com)), you will be working with hardware and software engineers at FalconViz to experiment with and build new tools to advance 3D surveying and mapping. We have a wide range of software projects around graphics, visualization, back-end and front-end web development, and computer vision.

### Responsibilities

* You’ll be responsible for researching, prototyping, and implementing a project during your internship. You’ll work with and get feedback from the Software Engineering and UAV team at FalconViz during the project

### Requirements

* Strong knowledge of C and C++ programming
* Experience with one or more of the following: Graphics programming with OpenGL/OSG, Game engines Unreal4, Computer Vision using OpenCV, WebGL development
* Must be self-motivated and able to adapt to a fast paced environment
* Cross-platform development experience is a plus
* Strong math and physics skills are a plus

### Compensation

* Competitive Salary
* Housing and Benefits Included

# Hardware Engineering Intern

As a Hardware Engineering Intern at FalconViz ([www.falconviz.com](file:///C%3A%5CUsers%5Csmithng%5CAppData%5CLocal%5CTemp%5Cwww.falconviz.com)), you will be working with hardware and software engineers at FalconViz to experiment with and build new tools to advance 3D surveying and mapping. We have a wide range of hardware projects around UAV design and fabrication, flight control development and communication, and sensor integration.

### Responsibilities

* You’ll be responsible for researching, prototyping, and implementing a project during your internship. You’ll work with and get feedback from the Hardware Engineering and UAV team at FalconViz during the project and have full access to invent in our state-of-the-art UAV laboratory.

### Requirements

* Experience with one or more of the following: SolidWorks prototyping, building UAVs and robots, programming embedded microcontrollers and sensors, GN&C flight software development, wireless mesh networking, rapid prototyping and machining
* Must be self-motivated and able to adapt to a fast paced environment
* UAV design and assembly experience is a plus
* Strong C++ and microcontroller programming experience a plus

### Compensation

* Competitive Salary
* Housing and Benefits Included