



Overview: Quadridox Inc. is seeking a full-time electrical/computer/software engineer to develop data processing, and simulation software for a prototype, next-generation X-ray imaging system. Quadridox is a small business with focus on design, implementation and analysis of X-ray sensing and measurement systems in the security, medical, and non-destructive testing domains. These exciting efforts include both hardware and software development and QSim, Quadridox's own tool for simulation and modeling of advanced X-ray systems. The current project focuses on the development of a novel X-ray scanner to identify explosives and other contraband materials in the aviation security arena.

Purpose: The engineer will develop analysis software for a prototype X-ray imaging system for security and aviation applications. They will work closely with senior scientists and engineers on the design and implementation of the data acquisition software and analysis tools. The engineer will lead the implementation of image acquisition, readout and display software, and data processing algorithm implementation and training. In addition, the engineer will assist with developing and executing simulation models for testing scanner performance that leverage cutting-edge machine learning techniques. The engineer will report to and work closely with senior staff on the project.

Major responsibilities

- Implement data processing and analysis software for prototype, next-generation X-ray imaging system
- Develop a pipeline for generating 3D models using computer graphics tools
- Build and design the graphical user interface for control of the X-ray imaging system
- Generate software manuals and help guides for control system and analysis software
- Develop and execute simulations of X-ray technology for testing scanner performance
- Assist team members with data generation and the development of software tools for the X-ray system
- Assist the team with preparing reports on software development and implementation tasks

Basic qualifications

- BS or MS in computer science, computer engineering, electrical engineering, or related field
- Proficient in Python, Linux
- US Citizenship or Permanent Residency

Preferred qualifications

- Working knowledge of Blender or Unity and 3D modeling
- Experience with C/C++ development
- Experience with Monte Carlo techniques or simulation software
- Experience with software control system development
- Working knowledge of signal processing and machine learning
- Experience with MATLAB, Docker, CUDA, OpenCV, Blender, Unity, SolidWorks are all a plus
- 2-4 years relevant experience
- Ability to hold US govt security clearance

Location: Hillsborough, NC (just west of Raleigh-Durham area, NC)

Application: To apply, please send your resume and a cover letter to careers@quadridox.com

Affirmative action

Quadridox Inc. is an Equal Employment Opportunity and Affirmative Action Employer and supports a diverse and inclusive work environment. We do not discriminate based on age, race, color, gender identity, religion, nationality, sexual orientation, marital status, pregnancy, medical condition, genetic information, military or veteran status, or physical or mental disability.