

SureScan employees work closely with the product, making a difference every day to protect people and improve security. We are always looking to hire the most talented, innovative and enthusiastic individuals for developing, manufacturing, and marketing explosive detection systems.

SureScan offers a variety of employment opportunities for creative and qualified individuals who think out of the box with skills in the fields of Engineering, Mathematics, Quality, Software Development, and Program Management. We are seeking candidates with industry experience as well as recent graduates and those with research experience. Candidates with U.S. security clearance are a plus for appropriate positions.

Our employees enjoy a benefit package, which includes health coverage, a retirement savings plan, time off and an exciting work environment. SureScan is an equal opportunity employer. Qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability or protected veteran status. Email your cover letter, CV and salary requirement to: employment@surescans.com.

Senior Software Engineer – 3D Image Rendering

Reports to: Manager, Core Technology

Description

The Senior Software Engineer – 3D Image Rendering will apply strong 3D mathematical skills and a background in image rendering to develop algorithms and solutions for rendering 2D and 3D images from X-ray data acquired by an automated explosive detection system. He/she will lead the development of image rendering applications that optimize 2D and 3D image interpretation and object recognition by the end user, enabling an effective end-user On-Screen Review process. Working as part of a product development team, this individual will collaborate with system engineering and other algorithm development teams to achieve optimized overall end-user system performance with reconstruction, detection and image rendering algorithms that provide optimal performance for critical end-user functions including detection capability, low false alarm rate, and On-Screen Resolution.

The Senior Software Engineer – 3D Image Rendering will support code development by working with software engineers to design and implement rendering algorithms for internal development tools and external production applications. The Senior Software Engineer – 3D Image Rendering will support development of data visualization applications that optimize image interpretation and object recognition by the end user.

Duties & Responsibilities

The Senior Software Engineer – 3D Image Rendering will work with software engineers and physicists to design and implement image rendering algorithms in explosive detection system applications providing expertise in the area of rendering. Activities include development of rendering algorithms and software, simulation and testing of algorithms and data analysis in support of validation of algorithms and optimization of computing methods. This individual will evaluate and select third party or open-source image rendering libraries or develop custom solutions that provide superior capability. The individual will analyze data in support of algorithm validation, and work with software engineers to optimize computational methods.

The Senior Software Engineer – 3D Image Rendering will develop rendering algorithms for display of 2D and 3D bag image data using techniques that enable color and edge enhancement algorithms to improve object and material recognition. This individual will collaborate with software engineers and physicists to integrate the real-time rendering algorithms into SureScan's visualization tools that run on Windows and Linux platforms.

The Senior Software Engineer – 3D Image Rendering will support all Image Rendering activities required for third party and regulatory evaluation and certification/approval of products for explosive detection system applications.

Education & Experience

- BS or higher in Computer Science, Computer Engineering, Electrical Engineering or related field or equivalent professional experience.
- 8+ years of experience in software development with an emphasis on computer graphics and rendering

Minimum Qualifications

- Prior experience in developing rendering software using X-ray generated data for security, medical and/or industrial applications
- Strong knowledge of C/C++
- Excellent 3D math skills
- Experience with computer graphics and real-time rendering engines (2D, 3D)
- Strong knowledge of current NVIDIA GPU architectures
- Strong knowledge of GPGPU and compute shaders
- Strong knowledge of standard graphics APIs (OpenGL preferred)
- Strong knowledge of shader languages (GLSL preferred)
- Demonstrated ability to write documented, clearly readable, maintainable and efficient code
- Excellent written, verbal, and interpersonal communication and teamwork skills
- Highly motivated individual able to maintain focus and produce results without a lot of direct supervision
- High degree of commitment, flexibility, self-motivation, self-confidence and assertiveness
- Strong technology skills, including proficient use of Microsoft Office suite including Visio

Desired Qualifications

- Experience with OpenGL 4.x and modern rendering techniques
- Prior experience developing 3D rendering engines
- Prior experience with OpenGL rendering under Qt
- Prior experience developing rendering algorithms for products that have been certified/approved for aviation security applications
- PhD or MS in Computer Science, Applied Mathematics, Physics or related field
- Experience developing for Windows and Linux platforms
- Experience with high performance computing (HPC)
- Experience with VTK Library
- Experience with CUDA
- Experience with algorithm development and modeling environments (MATLAB or equivalent)
- Experience developing applications for execution on GPU platforms using CUDA or other
- US citizen or Green Card holder and authorized to work in the United States
- Capable of holding US Security Clearance at SECRET level

Physical Demands

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee is frequently required to sit
- The employee is occasionally required to stand and walk
- Lift and/or move up to 50 pounds
- Specific vision abilities required by this job include close vision, distance vision and depth perception

Work Environment

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this Job, the employee is occasionally exposed to moving mechanical parts and X-ray equipment
- The noise level in the work environment is usually moderate
- Travel may be required, which will typically be less than 10% of time