CT/X-Ray Imaging Scientist

Req Number ENG-14-00038
https://www.appone.com/MainInfoReq.asp?R_ID=884059&B_ID=44

Description

As a CT imaging and simulation scientist you will help our team design the next generation of computed tomography (CT) explosives detection systems (EDS) systems by analyzing the image quality and simulating X-Ray physics.

Responsibilities include:

- Design and perform experiments involving image quality on CT systems.
- Design, implement, and test X-Ray simulations to model and develop next generation CT systems.
- Enhance existing software (Matlab and C++) to fit experimental needs.
- Optimize, test, and deliver software implementation in C++ and CUDA.
- Execute research and development projects, shifting priorities as needed.

Position Requirements

QUALIFICATIONS/REQUIREMENTS:

- PhD in Applied Mathematics, Electrical Engineering, Computer Science, Physics, Statistics or related field.
- Experience designing CT systems and CT based experiments.
- Expertise using one or more of the following: GEANT4, MC-GPU, EGSnrc and Penelope.
- 5+ years programming with C/C++ including 2+ years of object oriented program design.
- Knowledge of X-Ray generation and propagation in materials.
- Well versed in probability, statistics and linear systems theory.
- Knowledgeable in X-Ray detection and the scintillation process.
- Background in forward modeling using ray-trace and Monte Carlo methods.
- Knowledge of noise and random processes in imaging applications.
- Familiarity with non-destructive methods, CT system optimization and image quality metrics.
- Strong written and verbal communication skills.
- Must be eligible and willing to apply for US Security Clearance. Typically this requires United States Citizenship.

ELIGIBILITY REQUIREMENTS:

- Must submit your application for employment through the Morpho Detection website to be considered.
- Must be 18 years or older.
- Must be willing to take a drug test as part of the selection process.

- Must be willing to submit to a background investigation as part of the selection process.
- Must be willing to submit to a government background investigation as part of the selection process.
- Must have unrestricted authorization to work in the United States.
- Must be willing to work out of an office in Newark, CA

For U.S. employment opportunities, Morpho Detection hires U.S. citizens, permanent residents, asylumees, refugees, and temporary residents. Temporary residence does not include those with non-immigrant work authorization (F, J, H or L visas), such as students in practical training status. This position has the additional requirement of eligibility to apply for a US Security Clearance. Exceptions to these requirements will be determined based on shortage of qualified candidates with a particular skill. Morpho Detection will require proof of work authorization. Any offer of employment is conditioned upon the successful completion of a background investigation and drug screen.

DESIRED CHARACTERISTICS:

- GPU programming using CUDA.
- Experience wtith GEANT4, MC-GPU, Penelope and/or EGSnrc.
- Image Processing, familiarity with common image processing toolkits and libraries (e.g., Matlab toolkit, VTK, ITK, etc.).
- Understanding of CT image generation, Fourier Analysis, Signal Processing, Random Processes, Image Quality.
- Systems engineering expertise.
- Data Analytics / Analysis, strong understanding of statistics, experimental data processing
- Project leadership skills.
- Scripting in Python, Perl, or other scripting language.
- Linux systems administration experience.
- Experience working in/with governmental agencies.
- Exposure to mechanical and electrical engineering.
- Proven experience working both with a team and independently.

Location	Newark, CA (Corporate Office US)
Full-Time/Part-Time	Full-Time
About the Organization	At Morpho Detection, we know that our people are our most valuable asset. With that in mind, we offer excellent competitive benefits and compensation, a great working environment, and the opportunity to work with leading edge technology. We are looking for people who are seeking a challenging position; those who thrive in an environment where innovation and responsiveness are the norm. Morpho Detection is a leader in explosive and narcotics detection for aviation safety, checked baggage screening, military & critical infrastructure protection and new growth platforms in Chem/Bio, X-ray and Radiation/Nuclear detection. Morpho Detection was formed in September 2009 by the acquisition of GE Homeland Protection by Sagem Sécurité (Safran Group)

The Safran group operates worldwide, through offices and facilities in Europe, the Americas, Africa and Asia-Pacific. Through this global presence we enhance our competitiveness, while building industrial and commercial relations with the world's leading prime contractors and operators. Our international development strategy reflects our commitment to delivering fast, local service to customers around the world.

If you would like to be a part of a fast-paced, exciting industry that demands and rewards the best, we want to hear from you.

Morpho Detection is an equal opportunity employer.