SENIOR-LEVEL SOFTWARE ENGINEER
Cleveland (Mayfield Village), Ohio
www.research.us.medical.canon

COMPANY DESCRIPTION

Canon Medical Research USA, Inc. (CMRU) is a multi-modality R&D organization creating next-generation medical imaging systems. For those who like to develop new technologies and research new ways of using them, Canon is a rewarding place to work, due to its focus on innovation as the lifeblood of new products.

CMRU, awarded the 2016 Seal of Distinction award from WorldatWork®, is committed to recognizing and appreciating the variety of characteristics that make individuals unique in an atmosphere that promotes work/life balance and celebrates individual and collective achievement. We are especially interested in qualified candidates who can contribute, through their experience, education, research and/or service, to the diversity and excellence of our organization and the scientific and engineering community at large.

CMRU offers a great work environment, professional development, challenging careers, and competitive compensation and benefits. We are an equal opportunity employer (EOE).

SUMMARY OF POSITION

CMRU has an immediate opening for a senior-level Software Engineer in the Magnetic Resonance software team to participate in developing acquisition control software for our MR product line. A key role for this engineer will be working with international team members on embedded software as well as systems software.

RESPONSIBILITIES

- Develop and test MR acquisition control software.
- Write application software for a Linux system using C.
- Contribute to the design and specification.
- Document and test software.
- Build and maintain software test infrastructure.
- Optimize software performance on available computation hardware.
- Work with MR physicists to implement algorithms for MR acquisition systems, including data acquisition and image reconstruction.
- Research and innovate novel methods and/or technologies in data acquisition and/or image reconstruction.
QUALIFICATIONS

Education
- B.S. or equivalent in Electrical Engineering, Computer Engineering/Science, Physics/Engineering Physics, Biomedical Engineering, or equivalent.
- Advanced degree like M.S. or Ph.D. desirable.

Experience
The ideal candidate will have minimum four (4) years related experience and/or training, preferably in a product development environment; academic or research settings will be considered as well. Experience in embedded software design (i.e., FPGA, microcontroller, and/or inter-integrated circuit control) is a plus.

Key Competencies

Computer Skills
- Coding experience in C is required.
- Familiarity with Linux systems and related development environments.
- Knowledge of programming languages and development environments (C/C++, Python)
- Knowledge of development on multiple operating systems (including Windows, Linux)
- Knowledge of source code control systems like SVN, Mercurial
- Knowledge of multi-process/multi-threaded environments
- Knowledge of performance profiling and optimization
- Knowledge of C++ and Object Oriented Programming and Design preferred
- Exposure to shell scripts and advanced command line tools in Windows, Linux preferred
- Exposure to Scientific Programming preferred (MATLAB or equivalent)
- Software for creating documents, spreadsheets, and presentations

Language Skills
- Ability to read, analyze, and interpret technical requirements and design documents.
- Ability to write presentations for publication that conform to prescribed style and format.
- Ability to communicate information to supervisor, groups, and/or senior management effectively.
**Mathematics/Physics Skills**
Ability to learn and apply concepts from the following fields:

- Mathematical analysis: differentiation and integration
- Complex number mathematics including magnitude/phase relationships, and mathematical transform space (i.e., between frequency/time domains)
- MR physics and image reconstruction, including FFT, non-Cartesian re-gridding, apodization, filtering, etc.
- Medical image processing
- Linear algebra
- Numerical analysis
- Statistics
- Digital signal processing

**Reasoning Ability**
- Ability to define problems, collect data, analyze data, establish facts, and draw valid conclusions.
- Ability to interpret an extensive variety of technical information in mathematical or diagram form and deal with several abstract and concrete variables.

**Travel**
- Ability to complete domestic and international travel is required.