

Dr. Joseph Dagher at the Department of Medical Imaging, The University of Arizona, is looking for an avid and energetic computer programmer. Dr. Dagher is an Imaging expert who has been involved in the Research and Development of various imaging modalities. For this specific project, Dr. Dagher is creating a novel patent-pending Magnetic Resonance Imaging (MRI) solution which is achieving an order of magnitude gain in MR image quality compared to other methods. The overall task of the programmer is two fold: on the short-term, the programmer would help bring this computational tool into the hands of collaborators in industry/academia; on the longer term, the programmer would potentially advance its capabilities and performance. The short-term need is a priority at this point, although someone who fits the longer-term need would be desired.

Job Description

- * Translate Image Reconstruction code from MATLAB to C++ language
- * Create executable for multiple platforms (linux/MAC)
- * Enable GPU accelerated computing with supported platforms
- * Create slick, rapid and user-friendly GUI
- * Interface with Magnetic Resonance technicians to incorporate hardware constraints as program parameters
- * Provide support for main users for up to 1 month post code delivery
- * Provide detailed code documentation

Minimum Qualifications

- * Expert knowledge of MATLAB, C++ and parallel programming (GPU CUDA, etc.)
- * Fundamental knowledge of Image Processing (Fourier Transforms and basic morphological operators)
- * Fundamental knowledge of Numerical Optimization (Genetic Optimization, Particle Swarm, etc.)
- * Working experience creating GUIs in MATLAB and/or C++
- * Experience with Linux/Mac environments. MS Windows knowledge not needed.

Desired Additional Qualifications

- * Advanced experience with Numerical Optimization, in particular, Genetic Optimization routines
- * Basic knowledge of Signals and Systems (Signal to Noise Ratio, Bandwidth, Digital Sampling, etc.)
- * Strong Mathematical and Analytical Modeling skills
- * Strong writing skills (interest in publishing)

For additional information, please email your CV to Dr. Dagher at:
jdagher@email.arizona.edu.