Job Posting: Software Developer / Coding Consultant

Structural and Multidisciplinary Systems Design Lab, Queen's University

Job Category: Coding and Software Development

Job Type: Consultant / Freelance

Salary Range: $20 - $40 per hour

Role:

The Structural and Multidisciplinary Systems Design Group (SMSD) at Queen's is seeking multiple experienced software developers to assist MASc and PhD students implement research into standalone software packages using various programming languages. Consulting activities will include education, mentorship, and as-needed support for students to apply research codes in Python and/or Fortran. Freelance opportunities will include modification of large freeware engineering packages (C, C++), such as gmsh[1] and salome[2], to create an easy-to-use customizable platform for future software development and research integration.

Responsibilities:

- Teach effective coding / software development in various programming languages.
- Convert existing code written in MATLAB into various programming languages.
- Modify / customize existing freeware engineering packages from source code and other 3rd party applications.
- Assist with technology insertion of custom research codes into existing freeware engineering packages.
- Write well-organized code that retains a vision of flexibility and customization.
- Ability to work independently, detail oriented, and execution focused.

Requirements:

- BS/MS Degree in Electrical and Computer Engineering, Computer Engineering, Computer Science, or equivalent.
- Proficiency in Python, and/or Fortran, and/or C, and/or C++.
- Experience with professional IDEs (Microsoft Visual Studio Community).
- Familiarity with source control (Git) is an asset.
- Familiarity with UI / GUI development is an asset.
- Familiarity with mechanical design software (CAD and FEA, such as ANSYS[3] and HyperWorks[4]) is an asset.
- Excellent written and verbal communication skills.

Interested candidates should email Dr. Il Yong Kim (kimiy@queensu.ca)

About SMSD:

The Structural and Multidisciplinary Systems Design Group (SMSD) at Queen's University is lead by Dr. Il Yong Kim in the Department of Mechanical and Materials Engineering, who supervises over twenty graduate students working with multiple industry partners in the aerospace, automotive, and defense sectors. Dr. Kim's lab specializes in advanced research topics focused on mechanical design, finite-element analysis, and non-linear optimization, including topics in: multi-material topology optimization, multi-joint topology optimization, packaging optimization, and design for additive manufacturing. For more details, please visit: http://ilyongkim.ca/

[1] http://gmsh.info/
[2] https://www.salome-platform.org/
[3] https://www.ansys.com/
[4] https://altairhyperworks.com/

SMSD
STRUCTURAL AND MULTIDISCIPLINARY SYSTEM DESIGN GROUP