



GLOBAL ENGINEERING & MATERIALS, INC.

Engineering and Innovative Solutions

GEM Princeton NJ Opportunity

Research Engineer

Global Engineering and Materials, Inc. (GEM) is looking for candidates to fill a position of a Research Engineer. The ideal candidate will have demonstrated experience in most of the following fields: advanced computational mechanics and toolkit development, fatigue and fracture of composite materials and bonded structures, multiscale damage characterization in composite materials, and advanced computational geometry. The candidate should also demonstrate (1) strong technical knowledge and experience in the design of solution modules and novel approaches; and (2) strong communication skills inside and outside the company. In-depth experience in commercial FEM customization, and GUI design and implementation is a plus.

Job Duties:

- Develop advanced material models and element formulations to efficiently and accurately capture the material and failure sequence of composite, and hybrid structures under static, thermal, and fatigue loading.
- Design customized coupling interfaces for multi-physics simulations of complex systems.
- Develop proof-of-concept systems utilizing commercial-off-the-shelf components.
- Perform testing and develop and maintain documentation for GEM's software products from an end-user perspective.

Position Requirements:

- Advanced degree with 3+ year working experience in computational mechanics, composite mechanics, fracture mechanics or software development.
- Extensive experience in FEM pre and post processing and using commercial finite element tools such as Abaqus and ANSYS.
- Experience in developing user-defined modules for commercial FEM software.
- Proficiency in FORTRAN, C/C++, Python and other scripting languages, object-oriented design, familiarity with common software development, testing/QA/bug management, and software training procedures.
- Capable of conducting independent research and development work.
- Excellent written and verbal communication skills, highly motivated, good team worker to accomplish group objectives, and willing to take a leadership and mentorship in developing both technology and commercial markets.

Global Engineering and Materials, Inc. (<http://www.gem-innovation.com>) is a high-tech firm and provides its clients with innovative research and development, consulting services and multi-physics software tool development. Qualified applicants are invited to send a detailed Vitae with the name, address and phone number of 3 references via [Email \(xfang@gem-innovation.com\)](mailto:xfang@gem-innovation.com).

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