CEMWORKS
300-136 Market Ave.
Winnipeg, MB R3B 0P4

Computational Engineering Specialist at CEMWorks Inc.

Job Overview

CEMWorks Inc. is seeking to hire a new member of the Research & Development team to facilitate the work on current and future projects with the focus on computational electromagnetics. The ideal candidate for this position is interested in cutting-edge techniques for numerical modeling and enjoys solving scientifically challenging problems.

Writing code to test novel and well-established concepts for fast and accurate solution of electromagnetics challenges will constitute the major part of the job. The new team member is also expected to participate in code testing/verification/validation, fixing software errors and present the work results in a form of research reports, presentations, conference and journal papers.

Responsibilities

- Contributes as a team member on development of the software and algorithms for computational electromagnetics
- Design algorithms and test their implementation on practical examples
- Write well-designed, testable computer code that can be integrated into the existing framework
- Prepare software documentation according to company's standards
- Improve general code performance and adapt it to high-performance computing software & hardware architectures
- Deploy software in a high-performance environment, perform and analyze numerical simulations

Qualifications

- Master's degree or equivalent experience in quantitative research field (engineering, computational physics, mathematics, computer science, etc.). Ph.D. degree is considered as an advantage
- Experience with computer simulations of physical phenomena using numerical methods. Knowledge of numerical techniques for computational electromagnetics is a big plus
- Fluency in a high-level programming language (C/C++, Python, Fortran). Experience with coding for high-performance computing environment and parallel programming technologies (OpenMP, TBB, MPI, etc.) is an advantage
- Familiarity with general principles of a software development process
- Strong math background, primarily with a focus on linear algebra, computational geometry, differential equations
- The desire to work on cutting-edge techniques for computational physics applied to real-world projects

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