



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

Circuit Simulation (SPICE) Developer at CEMWorks Inc.

We seek an expert in the development of circuit simulators who will be responsible for scalable, accurate, and fast implementation of advanced circuit simulation codes to complement our electromagnetic simulation R&D team.

At CEMWorks, we strive to enable accurate electromagnetic simulations for the upcoming smart cities, autonomous self-driving cars, 5G networks, and new generations of computer chip interconnects. This ambitious goal requires us to build a team of the most talented professionals who enjoy the opportunity to work in the challenging and very rewarding environment of large-scale numerical simulations.

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, and conference papers.

Responsibilities

- Contribute 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 and prepare software documentation
- Improve general code performance and adapt it to high-performance computing software & hardware architectures
- Deploy software, perform and analyze numerical simulations

Required Qualifications

- M.Sc. degree in electrical engineering, applied math, or computational physics
- Familiarity with circuit simulators and basic required algorithms
- Confidence in scientific computing with C++
- Confidence in numerical techniques for solution of ODE and PDE
- Strong math background
- Some exposure to Linux/Unix
- Desire to work on cutting-edge techniques for physics applied to real-world projects

Preferred Qualifications

- Ph.D. degree in electrical engineering, applied math, or computational physics
- Understanding of analog/RF IC design and verification practices
- Experience in implementing circuit simulators using a high-level programming language
- Experience with semiconductor device modeling
- Fluency in C++ with application to parallel high-performance computing
- Experience with common algorithms of computational electromagnetics

Apply by email at jobs@cemworks.com