Computational Electrical Engineering Specialist
Winnipeg, MB Canada

CEMWorks is looking for a **Computational Electrical Engineering Specialist** to join our team of talented professionals and to work with cutting-edge techniques for numerical modeling and enjoys solving scientifically challenging problems. CEMWorks provides solutions for accurate electromagnetic simulations to enable technological developments in 5G, new generations of computer chip interconnects and Smart Mobility – including smart cities and autonomous vehicles.

As a member of the engineering team you will write code to test novel and well-established concepts for fast and accurate solution of electromagnetics challenges and participate in code testing/verification/validation, fix software errors and deliver the results of your work as research reports, presentations, and conference papers.

Responsibilities

- Deploy software, perform and analyze numerical simulations
- Develop and optimize computational models of electromagnetic fields and their interactions with various materials and structures.
- Run simulations of electromagnetic fields under various conditions using computational software, analyze the results, and adjust designs accordingly.
- Develop and optimize algorithms specifically for EM field simulations.
- Write, test, and debug software specifically for running EM field simulations and processing the resulting data.
- Ensure that EM field models accurately represent real-world systems and that simulation results are reliable. This may involve comparing simulations with experimental data or theoretical predictions.
- Stay up-to-date with the latest research in related fields. This may involve reading academic papers, attending conferences, or collaborating with researchers.
- Work with other engineers, scientists, or stakeholders to understand requirements, solve problems, and achieve project goals in the context of EM field simulations.
- Document models, algorithms, and software code related to EM field simulations. Report on simulation results and research findings.
- Plan and manage projects related to EM field simulations, including setting timelines, coordinating team members, and overseeing progress.

Must-have Qualifications

- M.Sc. degree in a quantitative research field (engineering, computational physics, mathematics, computer science, etc.)
- Experience with design, development, and documentation of computer simulations of physical phenomena using numerical methods
- Experience with using EM field simulations to design and verification of antennas and other RF systems.
- Ability to write C++ and/or python code for scientific computing
- Strong math background
- Familiarity with 3-D modeling and mesh algorithms

Preferred Qualifications

- Ph.D. degree in a quantitative research field
- Fluency in C++ with application to parallel high-performance computing
- Experience with common algorithms of computational electromagnetics
- Experience with metasurface design
- Experience with

Why CEMWorks

At CEMWorks you will work with some of the sharpest minds and some of the most prestigious, well-known companies in the industry. We pride in having a responsive and supportive work environment, where every team member thrives and is a vital contributor to the company's success. We are committed to maintaining a culture of inclusion, offer a flexible work environment and industry-competitive compensation.

CEMWorks is an Equal Opportunity Employer. We thank all applicants; however, only those qualified for this role will be contacted.

CEMWorks does not accept unsolicited referrals for vacancies. Any unsolicited referral will become the property of CEMWorks and upon hire, no fee will be owed to the agency, person, or entity.

Apply by email to jobs@cemworks.com