

Position: Senior Software Engineer - Data Engineer
Reports to: Vice President Product Engineering
Type: Full Time
Location: Greater Toronto Area, Canada

Company Overview – A Start-up Disrupting the Mining Industry

Novamera Inc. is a funded start-up that is developing an innovative technology and process to recover gold, copper or other ore from steeply dipping, narrow vein deposits that are considered uneconomic when applying traditional extraction methods. It is called Sustainable Mining by Drilling (“SMD”) and there is a global opportunity for this innovation, which has the potential to not only mine minerals more safely at a significantly lower cost than conventional selective mining methods, but with substantially lower energy, water consumption and environmental footprint. Not only is it possible to develop mineral deposits that may not be economic today, but SMD could also extend existing mines beyond their current engineering limits, leveraging existing infrastructure. Novamera was a finalist in the 2019 Disrupt Mining Competition sponsored by Goldcorp (now, Newmont Goldcorp). Visit the company website at www.novamerainc.com to see the competition video and other information for more background on Novamera and the SMD technology.

SMD System – A Revolutionary Technology

Novamera, with the help of Memorial University of Newfoundland in St. John’s (“MUN”), is developing SMD, a viable solution to address mining steeply dipping narrow vein deposits by augmenting existing directional drilling equipment and ground penetrating radar technology with innovative improvements geared toward the mining environment.

The unique drilling system combines high resolution subsurface imaging and directional drilling in a two-pass process that identifies the physical shape of the ore vein and is highly flexible to changes in vein geometry. The initial pass uses a diamond drill to create a pilot hole that is guided by the near borehole imaging tool (“NBIT”). The NBIT tool performs downhole surveys at regular intervals to measure hole trajectory and distance from the hanging wall and foot wall. The second pass utilizes large diameter (0.5m to 3.0m) hole opening equipment that follows the pilot hole and excavates the vein out to its full thickness. The cuttings are transported to surface using low energy reverse circulation air lift assist methods.

The SMD technology has been in field tested and received patent pending status and is currently at various development stages during 2021 to 2022. SMD will truly be a revolutionary technology and mining method that will change the economics of mining and improve safety while doing it in an environmentally friendly manner.

Opportunity – Development Role in Reshaping the Mining Industry

Given the market potential, Novamera was spun out of Anaconda, creating a new Canadian private corporation. The Senior Software Engineer has the opportunity to come on board at the ground floor, be a part of the engineering team and be a significant contributor in shaping the development of the SMD technology.

Novamera Inc is looking for:

A self driven senior data engineer looking to be challenged by designing, developing and delivering a software data pipeline, supporting database structure and supporting cloud technologies to the team. The ideal individual is someone who can work and communicate effectively with our geophysicists, data scientists and engineers to understand the problems being overcome and algorithms needing to be developed into a software solution. In addition, have an aptitude and clear understanding of machine learning and AI structures required to be built in to accommodate future machine learning and AI integration.

The candidate should be capable of mentoring junior software engineers and have them along with data scientist report to them. In addition be able to understand the development requirements and types of individuals and expertise needed to bring onboard to handle the workload.

An individual who is looking to join and grow with a start-up company delivering innovation and disruptive technology to the underground and mining community. Someone who is not afraid to bring to life concepts and resolve challenges through innovative design.

Role and Responsibilities include:

- Designing 3D spatial software rendering platforms and cloud database storage solutions
- Responsible for designing and maintaining APIs/Data Pipelines for ingesting data into Machine Learning models
- Developing and programming database structures able to handle labelling structure
- maintaining all appropriate documentation, including development documentation for all works
- Designing and developing navigation software based on imaging and steering parameters
- Working collaboratively, mechanical, and hardware disciplines;
- Leading or participating in design reviews;
- Writing, reviewing and executing test plans;
- Bringing up new software solutions while working closely with Hardware and controls Engineering;
- Creating user manuals;
- Writing and reviewing technical specifications, and;
- Provide mentoring and leadership to junior team members.

Qualifications Required:

- Bachelor's Degree in Computer Engineering (MS preferred) or similar degree;
- Minimum 5-10 of experience with software development and design, preferably in ground penetrating radar environment;
- Experience in developing software for Android Platforms;
- Understanding of Ground Penetrating Radar systems, subsystems and/or software requirements and development of suitable design options, and;
- Experience in cloud based technologies, software platforms and database structures.

Novamera Inc Offers:

- A constant stream of new challenges and a team of exceptionally collaborative and dedicated peers, all the way from engineering to leadership and management and;
- Growth and mentorship. We believe in growing engineers through leadership opportunities. And mentors helping both sides of the equation.