

SBQuantum are using cutting edge science to enhance the way we use magnetic fields to 'Reveal the Invisible' for our clients. We are reinventing the way companies sense the world by innovating magnetics to provide solutions for problems to which this sensing modality was previously redundant. As a forerunner of Sherbrooke's nascent quantum hub, SBQ are prototyping a 'Magnetic Intelligence' platform, built around a novel diamond-based magnetometer. This platform will reveal hidden objects and enable improved navigation even in difficult environmental conditions. Magnetic fields are everywhere around us, let's make them central to how we sense the world.

Your mandate : Build data processing models that will output the data that will lead to the next generation of the World Magnetic Model, used for navigation in all modern devices.

Given a magnetometer floating in orbit around the Earth, how do you ensure that you are measuring the magnetic field of the Earth, and not the field of the satellite on which the magnetometer is mounted? With the stream of data from all other sensors of the satellite, of course! If the combination of the physics-based and data science algorithms that will entail entices you, you may very well be the person for the job. Specifically, you will:

- Develop a data processing pipeline that will cancel out the magnetic signature of the deployment platform using fundamental physics as well as empirical data science;
- Assess which raw data streams are important via experimental information, and develop preprocessing routines so to use them most efficiently in the pipeline;
- Issue recommendations on redesigns of the platform so to maximize its magnetic cleanliness;
- Develop self-training models to continuously improve the output of the satellite while in flight.

What you need to join our team!

SBQ are looking for candidates with a high degree of autonomy and rigor to develop a high-performance autonomous magnetic inspection solution that meets customer needs. We are not afraid to fail so long as we learn from it - it's part of the adventure. We are looking for:

- A strong ability to work in a cross-functional team. You will work in a multidisciplinary team of passionate people in Sherbrooke, Montreal, Toronto - we are looking for examples of times you have excelled in a team environment be that at school or in an extra-curricular activity;
- Physics, mathematics, computer science or related background with experience in data science;
- Agility to shape decisions to navigate ambiguity and adjust priorities;
- Responsiveness to criticism, ability to set clear and measurable goals;
- Our full-time schedule is flexible and includes working remotely when tasks allow;
- Bilingualism in French/English is an asset - most of our documentation is in English but a significant portion of informal talks are in French.

You want to pioneer the deployment of a quantum technology in space? Contact us, our team wants to meet you!

Send your CV and cover letter to: info@sbquantum.com

As featured in: • Wired • The Economist • A case study • Graduation from the Creative Destruction Lab
• Institut quantique annual reports • The Quantum Daily • MagQuest Challenge

