Bryan-Elliott Tam

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Software Engineer with a background in Mechanical Engineering and experience in full-stack development, IoT systems, and R&D. Seeking R&D or software engineering roles. Personal projects and open-source contributions available at https://constraint-automaton.pp.ua/project.

Skills

- **Programming Languages**: TypeScript, Prolog, Rust, Python, Go, SMT-LIB, C++, Bash, SPARQL
- **Technologies**: Git, Jira, RDF, Svelte, Vue.js, React, Docker, MongoDB, Neo4j, SolidWorks, Creo
- **Natural Languages**: French (Native), English (Fluent), Dutch (Basic)

Work Experiences

Decentralized Database Researcher – PhD Study September 2022 — Present
Ghent University – Imec *Gent, Belgium*

- Developed and implemented scalable solutions for querying decentralized knowledge graphs, integrated into the Comunica query engine, with associated peer-reviewed publications.
- Supported the Knowledge Graphs course and supervised master's and interns.
- Contributed to community engagement through the SEMANTiCS 2025 Developers Workshop committee and the TREE W3C Community Group.

Decentralized Query Optimization Visiting Researcher September 2025 — October 2025
Inria *Nice, France*

Researched and implemented RDF data shape–based optimization algorithms for federated query optimization in the Comunica framework (FWO-funded project).

Search Engine Developer – Research Assistant May 2022 — September 2022
Université Laval *Sainte-Foy, Qc, Canada*

Developed a custom search engine to help architecture researchers retrieve relevant literature, implementing the backend in Go, the recommender system in Python, the frontend in JavaScript.

Localization Systems Developer – Research Assistant May 2020 — September 2020
Université Laval *Sainte-Foy, Qc, Canada*

Transformed a 2D excavator localization system into a 3D solution, increasing positional accuracy by integrating map data and turret orientation; developed using C++ and Python.

IoT and Web Developer August 2018 — March 2020
Systèmes Vireo *Sainte-Foy, Qc, Canada*

- Led development and deployment of an end-to-end IoT platform for urban agriculture at a startup.
- Integrated embedded systems using C++, MQTT, and KiCad with full-stack web development technologies including React, TypeScript, Node.js, MongoDB, and Node-RED.
- Conducted on-site installation and testing of hardware and software components.
- Collaborated cross-functionally with other departments to ensure successful project delivery.

Education

Ghent University 2022 — Present
Doctorate, Computer Science Engineering *Gent, Belgium*

Université Laval 2020 — 2022
Master of Sciences, Computer Science *Sainte-Foy, Qc, Canada*

Université Laval 2015 — 2019
Bachelor of Engineering, Mechanical Engineering *Sainte-Foy, Qc, Canada*