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. Currently pursuing a PhD in Computer Science at Ghent University. Personal projects and open-source contributions available at https://constraint-automaton.pp.ua.

Skills

- **Programming Languages**: TypeScript, Prolog, Rust, Python, Go, SMT-LIB, C++, Bash, SPARQL
- **Technologies**: Linux, 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 and Imec *Gent, Belgium*

Design and evaluate scalable solutions for querying decentralized knowledge graphs, assist in the Knowledge Graphs course, supervised master's and job students, serve on the SEMANTiCS 2025 Developers Workshop committee, and contribute to the Comunica framework. Published peer-reviewed papers on decentralized knowledge graph querying with associated software implementation.

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

With an FWO scholarship, improved query planning for decentralized SPARQL queries by leveraging data publisher metadata. Implemented and evaluated the approach using the Comunica framework.

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 the development and deployment of an end-to-end IoT platform for urban agriculture at a startup, integrating embedded systems (C++, MQTT, KiCad) with full-stack web development (React, TypeScript, Node.js, MongoDB, Node-RED). Conducted on-site installation and testing, and collaborated with other departments.

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*