Bryan-Elliott Tam

+32 0472 13 14 28 | bryan_elliott_tam@protonmail.com | github.com/constraintAutomaton | linkedin.com/in/bryanelliotttam/ | constraint-automaton.pp.ua/ | orcid.org/0000-0003-3467-9755

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.

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

Upcoming research stay funded by an FWO scholarship, focused on optimizing decentralized SPARQL query execution using data publisher metadata, with implementation in the Comunica framework.

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

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

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*