


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. 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*

Research decentralized web querying of knowledge graph databases, 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*