

Antoine Boucher

SOFTWARE ENGINEER — BACKEND / PLATFORM / DEVSECOPS

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Profile

Software engineer focused on cloud-native backend systems, DevSecOps automation, and developer tooling. Strong experience with Java/Kotlin and Python, Docker/Kubernetes, CI/CD, and infrastructure-as-code. Master's in Information Technology Engineering from ÉTS.

Core Skills

Backend	Java, Kotlin, Python, REST APIs, GraphQL, Microservices, Swagger/OpenAPI
DevOps / Cloud	Docker, Kubernetes, Terraform, GitLab CI, GitHub Actions, Nginx, GCP, Azure
Data / Storage	PostgreSQL, MySQL, MongoDB, Redis, Kafka, Data Science, Business Research
Testing / Quality	JUnit, Integration/E2E Testing (Playwright), Playwright, SonarQube, Observability/Logging
Other	Linux, Bash, Ansible, UML/Diagrams, PlantUML/Mermaid, Security-minded delivery

Experience

IMC2 – Institut multidisciplinaire en cybersécurité et cyberrésilience

Remote (Montréal, QC)

Research Assistant (Permanent Part-time)

Mar 2025 – Feb 2026

- Managed CI/CD pipelines with GitLab CI and GitLab Runners for end-to-end DevSecOps workflows, improving deployment reliability
- Developed Java microservices with robust unit tests (JUnit) and integration/E2E tests (Playwright), achieving high test coverage
- Containerized services with Docker and deployed with Kubernetes, Terraform, and Nginx on GCP, streamlining infrastructure management
- Created a cybersecurity risk-scoring algorithm and an interactive risk-visualization UI (Angular) for enhanced threat analysis
- Technical Skills:** Java, Kotlin, Docker, Kubernetes, Terraform, GitLab CI, GCP, Nginx, JUnit, Playwright, Angular

Polytechnique Montréal

Montréal, QC (On-site)

Teaching Assistant, LOG8100 DevSecOps (Contract Part-time)

Sep 2024 – Jan 2026

- Created and improved course/lab content focused on secure software delivery (DevSecOps)
- Set up and maintained the GitLab project structure for 20 teams (repositories, CI/CD templates, runners/workflows), and managed permissions/access control
- Assisted teams with Docker and Kubernetes fundamentals (containerization, deployments, debugging)
- Supported security learning with practical references to OWASP (common web risks, secure practices, and remediation mindset)
- Corrected practical assignments and provided technical coaching to unblock teams and improve deliverables
- Technical Skills:** GitLab, CI/CD, DevSecOps, Docker, Kubernetes, SonarQube, OWASP, Secure Coding, Linux

École de technologie supérieure (ÉTS)

Montréal, QC (Hybrid)

Teaching Assistant (Contract Part-time)

Feb 2024 – Apr 2026

- Courses: TCH057 (Winter 2024), IND500 (Fall 2025), TCH099 (Summer 2024, Winter 2025, Summer 2025), GTI660 (Summer 2024), GTI320 (Winter 2026)
- Built and refreshed lab material for distributed data topics (SQL, MongoDB, Kafka, PostgreSQL); designed assignments, rubrics, and detailed feedback for IND500, GTI660, and related cohorts
- Supported integrator projects (TCH099): debugging, architecture, backend and data pipelines; helped maintain course infrastructure including Microsoft Azure; coached teams on delivery, milestones, and SCRUM basics
- Supported labs for mobile/UX (TCH057) and course delivery for GTI320 (Winter 2026)
- Technical Skills:** SQL, MongoDB, Kafka, PostgreSQL, Distributed Databases, Microsoft Azure, Android Studio, UI/UX, SCRUM

IONODES

Laval, QC (Hybrid)

Cloud Developer (Permanent Full-time)

May 2023 – Aug 2023

- Designed and implemented a 3-tier subscription system with organization-based permissions using Auth0 for the IoT platform
- Developed Sentry SDK integrations in C# to enhance logging with Serilog, improving error tracking and monitoring
- Acquired expertise in ONVIF and WebRTC protocols for IoT video streaming applications
- Orchestrated deployments through Azure DevOps with feature flags and structured release workflows
- Technical Skills:** C#, .NET, Azure DevOps, Auth0, Sentry, Serilog, UML, Microservices, ONVIF, WebRTC

Intact

Back End Developer (Co-op)

Montréal, QC (Hybrid)

Jan 2022 – May 2022

- Created new campaigns based on client sign-up dates, providing personalized experiences for new clients
- Implemented API endpoint logic for enrolling new clients on legacy systems, streamlining the onboarding process
- Developed backend login and MFA API for mobile apps using Kotlin, providing secure and easy access for clients
- Improved ELK stack by creating Kibana dashboards for effective error management and defined error codes across multiple microservices
- **Technical Skills:** Kotlin, Spring Boot, GraphQL, MongoDB, Microservices, Docker Swarm, Jira, Kibana, SAFe

Divine Essence (Union-Nature)

Web Specialist (Contract Part-time)

Dorval, QC (On-site)

Jun 2020 – Dec 2020

- Redesigned bilingual blog (French and English), improving user experience and accessibility
- Implemented custom dynamic sales labels for search optimization on CommerceBuild, enhancing SEO performance
- Built custom "Add to Cart" API call workflow, streamlining e-commerce transactions
- Provided technical support and internal training on HTML, CSS, and JavaScript fundamentals
- Fixed popup, banner, and grid CSS issues; deployed a 3CX chatbot integration for customer support
- **Technical Skills:** HTML, CSS, JavaScript, CommerceBuild, 3CX, SEO

Power Go

Full Stack Web Developer (Co-op)

Montréal, QC

Sep 2020 – Apr 2021

- Utilized Python, Django, Vue.js, and PostgreSQL to develop a versatile data parser capable of handling XML, JSON, CSV, and Excel formats
- Integrated APIs for Facebook Shop and Marketplace, expanding sales channels
- Implemented a currency exchange rate system for CAD/USD conversions for complete inventory system and date synchronization
- **Technical Skills:** Python, Django, Vue.js, PostgreSQL, MongoDB, JavaScript, REST API, Git, Jira, Full-Stack Development

Wandrian

Full Stack Developer (Part-time)

Montréal, QC

Aug 2019 – Jan 2020

- Collaborated with Railkey Tech team to optimize the Italiarail website performance and user experience
- Assisted with Braintree Payment Support integration, ensuring smooth and secure transactions
- Undertook UI redesign to improve user experience and interface consistency
- Implemented an automated testing solution using Selenium to streamline code testing and ensure website robustness
- **Technical Skills:** Python, Django, JavaScript, jQuery, Selenium, MongoDB, REST API, Git, Jira, Test Automation

Wandrian

Full Stack Developer (Co-op)

Montréal, QC

May 2019 – Aug 2019

- Utilized Python, Django, Pyramid, and jQuery to enhance website and customer service tools
- Created an analysis dashboard enabling customer services to monitor currency usage effectively
- Redesigned ticketing frontend based on new design guidelines to improve user experience
- Rewrote infrastructure for Selenium end-to-end testing, optimizing the testing process
- Developed API endpoints facilitating ticket purchases; addressed and fixed bugs to improve website functionality
- **Technical Skills:** Python, Django, Pyramid, JavaScript, jQuery, Selenium, MongoDB, REST API, Git, Jira, Test Automation

Algolux

Algorithm Developer (Internship)

Montréal, QC (On-site)

May 2018 – Aug 2018

- Created Ansible scripts and Linux architecture system diagrams for REST API installation on USB-run Qemu VM ISO UEFI, enabling HDR 10bpp test image testing for Nexus 6 ISP
- Developed a REST API using Python Flask for remote control of MacBook displays
- Managed capture of 12,000 pictures using an 8-foot tripod across Montreal to create a security camera dataset with annotation applications on Linux for AI training
- Developed a Python-based tool for color analysis of raw images, enhancing image quality adjustment capabilities
- Created a software solution for remote control of camera arms, enabling image capture from diverse angles and distances
- Set up QNAP backup server for Ubuntu workstations; assisted with server networking tasks
- **Technical Skills:** Python, C++, CUDA, OpenCV, Flask, Ansible, Linux, REST APIs

Algolux

IT Technician (Internship)

Montréal, QC (On-site)

May 2017 – Aug 2017

- Supported Linux/Windows workstations and server environment used for image processing experiments and REST tooling
- **Technical Skills:** Linux, Windows, Server Administration, REST APIs

École de technologie supérieure (ÉTS)

Manager, MakerSpace (Part-time)

Montréal, QC (On-site)

Sep 2016 – Apr 2023

- Operated makerspace facility (3D printers/VR/electronics), maintained equipment, and supported student projects end-to-end
- Assisted students with digital fabrication, prototyping, and innovation projects
- Ensured materials and tools were always available for users; promoted innovation and creativity in digital fabrication and virtual reality
- **Technical Skills:** 3D Printing, VR, Electronics, Equipment Maintenance, Digital Fabrication

Collégial International Sainte-Anne

Manager of the MakerSpace (Part-time)

Montréal, QC (On-site)

Jan 2016 – May 2017

- Operated makerspace laboratory of electronics and software development (3D printers/VR/electronics)
- Ensured materials and tools were always available for users; assisted students with 3D printers and VR equipment
- Helped troubleshoot technical issues and guided students in innovative projects; maintained and repaired 3D printers
- **Technical Skills:** 3D Printing, Electronics, Equipment Maintenance

Leadership & Community

AlgoÉTS

President

ÉTS Algorithmic Trading Club

Jan 2023 – Present

- Maintains club infrastructure and web presence; supports projects in trading, data, and engineering education
- Leads development and support for internal tools (platform, strategies, workshops, automation)
- **Technical Skills:** Python, Trading Platforms, Data Science, Backtesting, Infrastructure

Education

École de technologie supérieure (ÉTS)

Master's Degree, Information Technology Engineering

Montréal, QC, Canada

Aug 2023 – Dec 2025

École de technologie supérieure (ÉTS)

Bachelor's Degree, Information Technology Engineering

Montréal, QC, Canada

Sep 2018 – Apr 2023

Certifications & Programs

Certification AWS Certified Cloud Practitioner

Programs Programme Québécois d'Entrepreneuriat Scientifique (QcES)

Cloud Quest Data Analytics, Networking, Cloud Practitioner, Machine Learning, Serverless Developer, Solutions Architect

Other training Udemy: Ultimate AWS Certified Cloud Practitioner CLF-C02 (Mar 2024)

Conference Presentations Presenter, Graphquon 2025 (Nov 15-16, 2025) — Annual Quebec-Ontario Pre-SIGGRAPH Workshop, University of Toronto

Selected Projects (Most Relevant)

MarkÉTS & AlgoÉTS Trading Platform

Fintech / Algorithmic Trading Platform

ÉTS Algorithmic Trading Club

Jan 2023 – Present

- Developed and maintained MarkÉTS paper-trading competition platform (170+ participants, 4,154 orders, 99%+ uptime over a 4-month competition) and core trading infrastructure (orders, portfolios, leaderboards)
- Maintained club website (algoets.etsmtl.ca) with member management, educational content, and platform integration; built Python/Pandas strategies and backtesting workflows
- **Technical Skills:** Python, Django, PostgreSQL, Real-time Systems, Financial APIs, Backtesting, Portfolio Management, Infrastructure

uml-mcp, D2COpenAIPlugin, plantumlapi

Open Source

Developer Tools / UML Diagram Generation

- **uml-mcp:** MCP-based server enabling UML diagram generation from natural language, integrating with AI coding assistants for automated documentation
- **D2COpenAIPlugin:** Plugin generating multiple diagram formats (PlantUML, Mermaid, Diagrams.net) from prompts, streamlining developer workflow and architecture visualization
- **plantumlapi:** Python library providing programmatic interface to PlantUML web workflows, enabling batch diagram generation and CI/CD integration

Graphquon 2024 Website & ChatGPT Plugin

École de technologie supérieure
(ÉTS)

Conference Website Development / Developer Tools

Sep 2024 – Nov 2024

- **Conference Website Developer:** Developed the official conference website (graphquon.github.io) for the Graphquon 2024 Annual Quebec-Ontario Pre-SIGGRAPH Workshop
- **ChatGPT Plugin:** Created UML diagram expert ChatGPT plugin to support conference attendees with diagram generation; integrated with OpenAI's plugin ecosystem
- **Technical Skills:** Web Development, ChatGPT Plugin Development, UML Diagram Generation, Conference Website Maintenance

another-install-script, retroarch-web-games

Open Source

Infrastructure Automation / DevOps

- **another-install-script:** Interactive menu-based deployment tool for managing multiple Docker containers and system configurations; integrates Docker Compose and Ansible for infrastructure-as-code
- **retroarch-web-games:** Containerized RetroArch web gaming platform with automated deployment and packaging for self-hosted gaming infrastructure
- **DasherControl:** Interactive configurable dashboard with customizable GridItem components supporting IFrame and Bookmark integrations; enables flexible dashboard customization for various use cases

MarketWatch API, Home Assistant Integration, Sentry SDK

Open Source

API Integrations / Data Automation

- **marketwatch (PyPI):** Published Python library for MarketWatch virtual trading platform API; provides programmatic access to watchlists, portfolio tracking, and leaderboard data for algorithmic trading applications
- **hass_renpho:** Custom Home Assistant integration for Renpho smart scale metrics (Jun 2023 – Sep 2024); enables health data automation and integration with smart home ecosystems
- **Serilog.Sinks.SentrySDK:** .NET Serilog sink plugin simplifying Sentry error and log management; streamlines observability integration for .NET applications

Dimension

Open Source

Scientific computing / Rust libraries

- **mathlib:** Rust linear algebra crate with dense and sparse matrices, vectors, SVD, and 3D math helpers; optional parallel, SIMD, and WASM features
- Multi-crate workspace also covering rendering, geometry, kinematics, physics, collision, neural modules, and related tooling and demos
- **Technical Skills:** Rust, Linear Algebra, Numerical Computing, WASM