

MARK AXELUS

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EDUCATION

University of Victoria

B.S. in Computer Science with Software Systems Options

Relevant Courses: Machine Learning, Data Structures & Algorithms, Operating Systems, OOP

Dec 2026

Victoria, BC

TECHNICAL SKILLS

Languages & Frameworks: Python · Java · TypeScript · C++ · SQL · React.js · Next.js · Node.js · Express.js · C

Tools & Platforms: Git · pgAdmin · Postman · Jupyter · Linux · REST APIs · Jest · Cypress · Selenium · JUnit/Gradle

Data & Cloud: AWS (S3, Lambda, Route 53) · PostgreSQL · MongoDB · Prisma · Pandas/NumPy · PyTorch · Power BI

PROJECT EXPERIENCES

Full-Stack & Product Design | Next.js, TypeScript, TailwindCSS, Redux, Node.js, PostgreSQL, AWS **Jun 2025 - Present**

Relay – Personal Project Management App | [Github](#) *Victoria, BC*

- Built responsive UI with real-time task, status, and comment updates using Redux Toolkit sockets and RTK Query.
- Designed and tested scalable REST API with Express.js and Prisma; checked API responsiveness under mocked task loads and concurrent API access during development.
- Integrating AWS Cognito auth with OWASP ZAP scans for high-severity issues report.

Requirements Analyst

Jan 2025 - Apr 2025

Requirements Engineering – Coursework | [Github](#) *Victoria, BC*

- Collaborated in a cross-functional team of 8 to produce a comprehensive 85+ page system specification outlining a full cycle SDLC of an end-to-end university chatbot assistant.
- Drove full RE lifecycle by coordinating team efforts across: elicitation, analysis, specification, and validation.
- Co-authored 60+ artifacts including user stories, use-case diagram, domain model, database schemas, low/high fidelity prototypes, and risk-value roadmap, all with full traceability to BDD acceptance test.

Full-Stack Development | TypeScript, Mermaid.js, Serverless, AWS, LangChain, OpenAI

Jan 2025

Synapse - Hackathon | [Github](#) *Vancouver, BC*

- Built a TypeScript UI that converts uploaded PDFs into live, code-editable mermaid diagrams with FastAPI; handles 10MB files in < 5s on Lambda 512MB.
- Orchestrated API Gateway, configured Lambda for seamless live demo execution without cold-start delays.
- Linked GPT-4 via LangChain to extract entities/relations, auto-creating Mermaid.js diagram code and summaries.

Back-end Development | MERN, bcrypt, JWT, Cookies, TailwindCSS

May 2024

BasicAuth – Personal Authentication App Project | [Github](#) *Victoria, BC*

- Implemented sign-up/login, token refresh, and role checks; packaged as modular logic for future use.
- Built a responsive UI using HTML5, CSS, and JavaScript; integrated with the MERN stack.
- Secured credentials with bcrypt hashing and HTTP-only SameSite cookies; passes OWASP test suite.

CLUB PROJECTS

UVIC Environmental Engineering Club | Next.js, React.js, TailwindCSS, C, STM32, RTOS

Jan 2024 - Sep 2024

UVEEC – UVIC Environmental Engineering Club | [Github](#), uveec.ca *Victoria, BC*

- Developed 12+ reusable React components to streamline future development and scalability; fixed existing dark-mode banner bugs that previously disrupted readability and contrast on key pages.
- Implemented C communication logic for a sea-glider prototype on an STM32 MCU; FreeRTOS to keep sensor polling and motor control modules independent and latency-predictable.