MARK AXELUS

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EDUCATION

University of Victoria   **Dec 2026**
B.S. in Computer Science with Software Systems Options   *Victoria, BC*
Relevant Courses: Machine Learning, Data Structures & Algorithms, Operating Systems, OOP

TECHNICAL SKILLS

Languages & Frameworks: Python · Java · JavaScript · TypeScript · R · SQL · React.js · Next.js · Node.js · Express.js
Tools & Platforms: Git · Jenkins · Jira · Postman · Jupyter · Figma · REST APIs · Jest · Cypress · Selenium · Redux
Data & Cloud: AWS (S3, Lambda, Route 53) · PostgreSQL · MongoDB · Prisma · Pandas/NumPy · PyTorch · Power BI

PROJECTS & TECHNICAL EXPERIENCES

Full-Stack & System 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.

Full-Stack & UX Development | Next.js, TypeScript, Motion, TailwindCSS, Redis   **June 2025**
Personal Portfolio Project | Github, markaxelus.com   *Victoria, BC*
- **Designed and built a responsive, SEO-conscious** personal portfolio with smooth scroll-triggered transitions and intuitive project navigation to **optimize UX**.
- **Engineered a modular, scalable codebase** with reusable UI components, including 5+ custom animations components.
- **Integrated API routes** to handle contact form submissions, visit tracking, and on-demand resume downloads.

Requirements Engineering   **Jan 2025 - Apr 2025**
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 & System Design | 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.

CLUB EXPERIENCES

UVIC Environmental Engineering Club | Next.js, TypeScript, 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.