BENJAMIN MCLEAN

Full Stack Developer | Focused on Craftsmanship and Quality

@ benmclean981@gmail.com https://linkedin.com/in/benmclean981 https://ben-mclean-software.com Fort Erie, Ontario

SUMMARY

Full-stack developer with an engineering background and a passion for clean architecture, developer tooling, and delivering high-quality software. Proven track record of independently building scalable platforms and modern web applications within complex, fast-moving engineering teams.

EXPERIENCE

Full Stack Developer

Catalyst Technologies   05/2024 - Present   Saskatoon, Canada
Technical owner of multiple full-stack projects in AgTech industry.

- Sole developer responsible for end-to-end delivery on multiple projects. Designed architectures, implemented features, managed deployments.
- Designed and built scalable backend REST APIs using **Fastify**, **Node.js**, **TypeScript**, **Supabase**, and **PostgreSQL**.
- Developed reusable, component-based frontends with **React**, **Next.js**, and **SCSS modules**, sharing components across multiple applications.
- Used **Next.js's** Image component to reduce image payload sizes by over 90%, reducing transfer size.
- Integrated **Sanity CMS** with intuitive interfaces for content managers.
- Selected and managed infrastructure on **DigitalOcean** to support performance and scalability.
- Initiated and led **AI R&D** projects, including the creation of a virtual sales rep / **knowledge base** powered by OpenAI's **GPT API**.
- Used **Redis** as a job queue to process over 200 product documents into an **embedding database.**
- Improved **PostgreSQL** function performance by **10X.**
- Led **DevOps** efforts by designing **CI/CD** pipelines and defining integration processes to ensure reliability.
- Practiced **test-driven development (TDD)** while writing maintainable **Clean Code.**

Software Developer

Lincoln Electric   05/2021 - 05/2024   Vankleek Hill, Ontario
Created software solutions for robotic CAD operations.

- Created a **time estimation tool** for job quoting using **TypeScript** and **React**, improving quoting accuracy and speed.
- Designed and developed a **2D/3D geometry library** to support advanced CAD-like operations and model 3D features.
- Created an experimental web based **2D plate nester** equipped with a g-code post-processor.
- Participated in the maintenance of a large **C# codebase**, performing refactors, adding tests, fixing bugs, and implementing new modules.
- Added over **1500 unit tests** to an existing codebase by practicing **test driven refactoring**.
- Supplied feedback and assisted developers through **code reviews**.
- **Coordinated co-op students**, overseeing the development of internal support tools, communicating concepts like TDD, clean code, and refactoring.
- Improved unit test run time by 3X by using **swc** with **jest**.
- Experimented with **microservices** on **Kubernetes**.

EDUCATION

Double Bachelors in Mechanical Engineering and Computing Technology

University of Ottawa

2017 - 2022   Ottawa, ON   GPA 7.6 / 10

INDUSTRY EXPERTISE

HTML5, JavaScript/Typescript, React, Tailwind

━━ ━━ ━━ ━━ ━━ ━━ ━━

C#, .NET Core, .NET Framework, Bootstrap, ASP.NET

━━ ━━ ━━ ━━ ━━ ━━ ━━

KEY ACHIEVEMENTS

◆ **AgraCity Platform**

Developed software platform to facilitate the creation of new technologies, including websites, internal business tools, and AI R&D projects.

◆ **PythonX-Predict**

Created accurate and configurable web-based tool for estimating cutting time of steel beams.

SKILLS

Languages/Frameworks

TypeScript	JavaScript	React
HTML/HTML5	CSS/CSS3	Bootstrap
Tailwind	SASS/SCSS	NodeJS	NestJS
Fastify	C#/.NET	ASP.NET	EF Core
SQL	Python	Flask	Java	C/C++
Rust

Tools

Git	GitHub	Azure DevOps	Azure
Docker	Kubernetes	VSCode
DigitalOcean (AWS/GCP Equivalent)	XML
Teams/Slack

Databases

PostgreSQL	MySQL	SQLite
Microsoft SQL Server	MongoDB
Supabase	Indexed DB	Redis