Lian Duan

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Experience

Intermediate Fullstack Developer **June 2025 – Present**

Real Estate Board of Greater Vancouver | C#, Next.js + React, Redis, Azure DevOps, Azure EventBus, WSL *Vancouver, BC*

- Reduced payment failures by ***88%***, recovering over ***$400K*** in monthly revenue by engineering scalable account updater service that asynchronously propagates thousands of PCI-compliant payment entries from JPMorgan Chase throughout internal systems via event bus, redis, Azure Functions, and KV stores.
- Implemented audit logging table, internal error notification emails and Azure Log Analytics monitoring for real-time tracking, and rapid troubleshooting of payment processing workflows, reducing overall diagnosis of payment related issues from hours to minutes.
- Architected end-to-end systems for member self-service platform serving ***15,000+ users***, delivering profile management, data-driven dashboards and subscription features that increased data accuracy, while mentoring junior developers.
- Engineered fullstack search solution integrating Sanity.io CMS with Azure AI Search using serverless functions for content indexing and React/Next.js frontend, enabling users to instantly discover relevant content across ***45,000+*** entries.
- Authored onboarding documentation, including environment setup, dependencies and best practices for backend platform setup, formalizing and shortening the break-in time for new devs to begin work on platform.

Software Development Engineer **July 2023 – June 2025**

Brock Solutions | C#, React, ASP.NET Core, SQL Server, Azure DevOps, Windows Server *Richmond, BC*

- Led development of internal emulation tooling in C# ASP.NET and WinForms, eliminating ***$40K USD in annual licensing costs*** by replacing 3rd party software and creating cross-team and multi-user baggage system debugging capabilities.
- Developed and implemented high-availability distributed tracking systems handling ***millions of daily transactions*** for JFK and YVR International Airport leveraging SQL server, C#, ASP.NET Core, and Windows Server with fail-over clustering.
- Built real-time even-based baggage tracking map with replay capabilities, enabling operators to correct and audit over 4,000+ daily bag misroutes and significantly reduce lost luggage incidents.

Agile Developer Intern **September 2021 – April 2022**

SAP (HANA and Analytics) | TypeScript, Node.js, Spring Boot, Express.js, Jenkins *Vancouver, BC*

- Issued patches for common vulnerabilities and exposures (CVEs), refactored non-standard API patterns, resolved code defects, and increased code coverage to 95% in HANA-related microservices
- Centralized microservice deployment statuses by implementing a team managed deployment dashboard, improving the team's operational efficiency.

Web Software Developer Intern **April 2020 – September 2020**

FORM | TypeScript, Node.js, Express.js, Vue.js, AWS, SQL *Vancouver, BC*

- Implemented end-to-end (database, backend and API) support for "Verified" and "Professional" displayable user badges in the mobile app using Express.js, TypeScript and Sequelize(SQL).

Web Applications Developer Intern **September 2019 – April 2020**

LedgerDocs | PHP/CodeIgniter, JavaScript, JQuery, Linux, MySQL *North Vancouver, BC*

- Designed and built Optical Character Recognition (OCR) system using the Tesseract library, integrated into the existing PHP (CodeIgniter) codebase, to read, process, and parse over ***30,000*** photographic invoices per quarter.
- Established a queue worker system to distribute high CPU consumption during peak processing hours, reducing the job-based load on server instances by up to ***99.7%*** and eliminating job CPU overload server crashes.

Education

University Of British Columbia **September 2017 – June 2023**

Bachelor of Science in Computer Science with Co-op: 3.7/4.33 GPA *Vancouver, BC*

Projects

PyeadCrab | *Python, PythonAST, ANTLR, React, HTML Canvas, D3.js* **December 2022**

- Developed Python CLI tool for static code analysis using AST tree processing to identify code clusters and visualize structural relationships with D3.js graphs.

Technical Skills

Languages: C#, TypeScript, SQL, Java, JavaScript, Python
Frameworks/Libraries: .NET, React + Next.js, Node.js, Express.js, Java Spring, D3.js, RESTful APIs, Serverless Functions
Tools & Technologies: Git, Azure, Sanity.io, MySQL, SendGrid, Jira, Jenkins, Docker
Systems & Environments: Linux (Ubuntu), Event-Based Microservices, REST, High-Availability Systems, WSL