

Daniel Chen

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Skills

Languages: Python, TypeScript, JavaScript, SQL, Rust, C++, Java, HTML, CSS

Frameworks: React, Node.js, Vue, Flutter, Spring Boot, Next.js, Express, Prisma, Axum

Tools: Linux, Git, Docker, PostgreSQL, AWS/GCP, Redis, Kubernetes, Terraform, GraphQL, nginx

Experience

Software Developer Intern | *Next.js, Spring Boot, PostgreSQL, AWS, Terraform*

Jan 2024 – Apr 2024

Immigr8

Remote

- Reduced manual user inputs by **40%** by extracting data from users' uploaded documents in S3 with Textract
- Planned and executed a roadmap to SOC 2 security compliance by **implementing role-based permissions with JWTs**, sending backend logs and alerts to CloudWatch, and introducing new privacy controls for user data
- **Introduced CI/CD for AWS Lambdas** by codifying them in Terraform for reproducible and automatic deployments
- Set up a staging environment via **EC2 and Jenkins** with parallel builds to **reduce production errors by 90%**

Software Engineering Intern | *React, Python, PostgreSQL, AWS*

May 2023 – Aug 2023

Dropbase

Remote

- Owned and launched a HubSpot/Airtable to Google Sheets sync feature to **46000+ enterprise users** by writing AWS Lambda functions in Python, abstracting interfaces to easily support future sources
- Wrote and deployed a new **React** data query builder for our business intelligence visualisation service to **33000+ users**, eliminating the need for clients to manually write API calls or Python code
- Designed a conflict resolution algorithm for merging databases, **reducing unrecoverable errors by 75%**
- Developed a **serverless microservice** that asynchronously ingests email attachments directly into ETL pipelines

Backend Lead | *Express, Redis, GraphQL, Docker, Kubernetes*

Mar 2023 – present

Hack the North

Waterloo, ON

- Shipped a new **bus registration tool** for attendees by creating new database tables and GraphQL resolvers
- Created a real-time event statistics dashboard by implementing GraphQL **subscriptions with Redis PubSub**
- Diagnosed and **recovered from load spike crashes** by debouncing queries, using rate limiting as a stopgap
- Reduced event check-in times by **80%** for **1900+ attendees** by generating digital wallet passes over Express
- **Led and mentored a team of 6** to ideate, scope, and deliver features for **Canada's largest hackathon**

Projects

Mandown Comic Downloader 🐙 | *Python, Qt*

- Created a CLI and GUI to scrape, download, and convert webcomics into e-ink-optimised ebooks (EPUB, PDF)
- Designed a **scalable data conversion system** via a canonical format, allowing any format to convert to any other
- Implemented **image caching and multithreading** to increase download and update speeds by **300%**

Kobo Sync Server 🐙 | *Rust, Axum*

- **Reimplemented the Kobo Store Sync protocol** in an Axum backend to instead sync personal ebook files
- Deployed the service behind an nginx reverse proxy and Cloudflare DNS to allow syncing over the internet

Jeopardy! 🎮 🐙 | *Vue, TypeScript, WebSockets*

- Created a beautiful and polished remote game where participants buzz in on their devices over WebSockets
- Synchronised game state between clients and the host with shared TypeScript types and the observer pattern

Education

University of Waterloo

Sep 2022 – Apr 2027

B.A.Sc. in Computer Engineering

Waterloo, ON

- Courses: Object-oriented programming, data structures & algorithms, digital logic & circuits