Jocelyn Xu

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SKILLS

- **Languages:** Javascript/Typescript, Java (OOP), Python, C, SQL, Shell scripting, HTML, CSS
- **Frameworks:** React, Angular, Tailwind, Flask, FastAPI, Next.js, Express.js, Java Swing, Three.js
- **Tools:** AWS, PostgreSQL, Docker, Postman, Node.js, Figma, Sentence Transformers

EDUCATION

University of Waterloo (UW)   Sept 2024 – Apr 2029
Computer Science, Honours, Co-op Program   *Waterloo, ON*

- CAV: 95.3

EXPERIENCE

Bank of Montreal (BMO) Software Developer | *Online Banking for Business*   May 2025 – Dec 2025
Help Center AI Chatbot   *AWS Lambda, Bedrock, DynamoDB, API Gateway, S3*

- Developed **serverless RAG chatbot** using **AWS Lambda, Bedrock** (Claude), and **S3** knowledge bases, implementing **WebSocket** rooms for persistent chat history and in-session memory
- Developed **multi-agent routing** system with **supervisor-collaborator** agent architecture to classify **query intent** and orchestrate **agent selection** for task execution, improving accuracy and reducing latency by **35%**
- Automated **web scraping** pipelines using **puppeteer** to extract documentation from Online Banking for Business Single Page Applications, storing **100+** embedded documents in S3 buckets for Knowledge Base retrieval

Lexicon Design System (LDS)   *Angular, Typescript, Storybook, Figma*

- Created **15+** responsive and **WCAG 2.2 AA** accessible **Web Components**, driving migration from Angular to framework-agnostic components, expanding the LDS adoption to **300+** developers and UI/UX teams across BMO
- Automated **250+** unit tests with **Jest** and **Playwright** for LDS components, preventing **360+** bugs across SIT environments and boosting developer efficiency by **48%**, **saving BMO hundreds of thousands of dollars** in operational costs while ensuring consistent, accessible UI/UX across products
- Managed **bi-weekly releases** with **semantic versioning** and **branching workflows**, publishing bundled builds to the **JFrog Artifactory** as internal **NPM packages** used across BMO products serving **60,000+ clients**

UW Data Science Club (UWDSC) | *Datathon Coordinator, Developer, VP Development*   Dec 2024 – Present

- Led a team of 8 developers to create hacker and admin application portal for CxC (Canada's largest student-run data hackathon) with **500+** users, integrating **NFC** tag check-in to streamline registration management
- Developed **GitHub Actions CI/CD workflows** automating project issue tracking and **Discord webhook integration** for instant deployment preview notifications, reducing deployment access and manual project management overhead from **minutes** to **seconds**
- Migrated to **monorepo** and database from **MongoDB** to **Supabase** by redesigning **normalized relational schemas**, refactoring backend into **layered Controller-Service-Repository** pattern, and redesigning with **Shadcn/ui** to improve code maintainability, consistency, and query efficiency

PROJECTS

Fashionkilla ⍉ | *React, Tailwind, MongoDB, FastAPI, Gemini API, Sentence Transformers*   Oct 2025

- Built an AI fashion recommendation system using **SentenceTransformer** for vector embeddings and **cosine similarity** for outfit matching, implementing **FastAPI CRUD endpoints** for user closet and image management
- Integrated **Google Gemini API** for clothing image metadata extraction, caching pre-computed **vector embeddings** alongside **base64-encoded** images in **MongoDB** to reduce redundant calculations and achieve optimal recommendation performance
- Won **best use of MongoDB** and **best UI/UX** at TechNova 2025

UWDSC Website ⍉ | *React, Next.js, Typescript, Tailwind, MongoDB, Formik*   May 2025 – Sept 2025

- Implemented full-stack application portal with **REST API CRUD endpoints** following **MVC architecture** with **MongoDB** backend, including dynamic form generation with **Formik/Yup validation schemas** and **debounced auto-save** to local storage for **150+** applicants
- Built responsive admin dashboard with **pagination**, **application analytics**, and **CSV export functionality** processing nested JSON structures into flattened tabular format with dynamic role-specific column generation
- Built real-time attendance tracking system with **Redux state management** and **GET** endpoints for **live event polling** and **check-in patching**, featuring role-based authentication to process **250+** check-ins per event

ResuMix ⍉ | *Python, Flask, React, Vite, NeonDB, Sentence Transformer, OpenAI*   Aug 2025

- Developed an AI-powered resume optimizer using **Sentence Transformers** for semantic similarity scoring to rank resume content with job descriptions
- Generated tailored resume PDFs via custom styled **ReportLab** template within minutes through **connection pooling** and **batch operations**
- Designed **NeonDB PostgreSQL** schema for user authentication and nested resume data storage, enabling dynamic **LaTeX** export and parameter-based optimization with adjustable weights for **ATS keyword matching**