YULU DUAN

Combined Major in Computer Science & Statistics, 3rd Year

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TECHNICAL SKILLS

Languages: JavaScript/Node.js, TypeScript, Java, Python, PHP	**Cloud:** AWS Certified Cloud Practitioner **1000/1000**
Framework & Library: React, Next.js, Express.js, Spring Boot, Flask	**CI/CD:** Jenkins, Docker/ECS, GitHub Action
Database & ORM: MongoDB, MySQL, Oracle, Prisma, Mongoose	**Testing:** JUnit, Cypress, TDD, E2E

WORK EXPERIENCE

Web Development Specialist   **UBC IT Web Services**   **Sep. 2023 – Present**

- Leveraged **Drupal CMS** for end-to-end solutions, harnessing its flexibility and robustness to create custom content and functionality through PHP-based **custom module development**.
- Expanded expertise in web development with a focus on **PHP** and Drupal, enhancing skills in **CI/CD pipelines** with Jenkins and **GitHub Action**, and skills in containerization with **Lando** and **Docker**.
- Contributed to large-scale codebase maintenance for UBC websites which incorporated diverse modules and intricate features, ensuring reliability and consistency, while tailoring custom modules to meet the diverse requirements of various sites.

Student Software Engineer   **John Frostad Research Group**   **Sep. 2023 – Present**

- Implemented a **Python**-controlled system at John Forstad Lab, automating temperature controls, pumps, and cameras, elevating research capabilities through **IoT technology**.
- Led the implementation of the **Modbus protocol** for temperature controllers, enabling precise communication and remote monitoring capabilities.

Co-Founder: Software Engineer   **Trumpet AI**   **Jun. 2023 – Present**

- Developed an AI Agent software for one-click marketing brief generation, integrating **Open AI API** using **Next.js**, **React**, and **TypeScript** for real-time content streaming, and utilized the strategies of prompt engineering to elicit more accurate and customizable responses from AI models.
- Optimized SEO and page load times with **Next.js SSR** and **Server Actions**, implemented relational database schema with **Prisma** and **MySQL**, and ensured data integrity with **Zod**.
- Elevating user experience with Clerk API for authentication, Stripe API for secure payments, and enhanced state management via Redux and Context.

Projects Assistant   **UBC VP Research and Innovation**   **Sep. 2022 – Apr. 2023**

- Developed a data interaction tool using an **elastic list** and **faceted search** approach to explore connections between funding programs, faculty networks, and research topics, significantly reducing matching time to just 3 seconds.
- Implemented a nested array data structure in **JavaScript**, and **D3.js** for efficient handling of **Many-to-Many** relationships.
- Collaborated with cross-functional teams, leading weekly progress meetings, and ensuring timely project milestones delivery.

TECHNICAL PROJECTS

Tear Off Tags (Java Spring Boot, React, AWS RDS, AWS Elastic Beanstalk, JPA & Hibernate)   **Jan. 2024 – Present**

- Developed a mentoring and sharing project with Java Spring Boot, React, and AWS RDS, creating an inclusive space for minorities in tech, and applied JPA & Hibernate for efficient data management, enabling an engaging online community to share stories, inspire others, and connect with mentors.
- Implemented RESTful APIs, ensuring the integration of communities through Tear Off Tags, and leveraging AWS Elastic Beanstalk for scalable deployment.

FlowFairy (Typescript, React, Next.js, Tailwind CSS, Zustand, MongoDB, REST API)   **Jul. 2022 – Sep. 2023**

- Designed a Flow Chart Creator tool for students, enabling seamless integration of PDF previews and rich-text notes within each box of the flowchart, simplifying literature review organization and resource management process to support my twin sister.
- Developed Next.js and TypeScript-based backend RESTful API, optimizing MongoDB data operations. Implemented state management using Zustand, and embedded Tailwind CSS for efficient, maintainable styling
- Built parallel and intercept routing in Next.js for the dynamic flow chart dashboard to optimize application performance and deployed the application on Vercel with the link at **https://flowfairy.vercel.app/**

Steam Games Management Application (PHP, SQL)   **Apr. 2023**

- Developed a database for Steam, providing customer behavior analysis for marketers and potential updates of games.
- Utilized the ER Diagram and database schema derived with proper normalization to map out the relationships between entities.
- Implemented PHP full-stack development and executed complex SQL queries for player-friendly game discovery.

EDUCATION

Bachelor of Science   **University of British Columbia (Vancouver, Canada)**   **Sept. 2021 – Jun. 2025**

- Specialization in Computer Science and Statistics with GPA 87%
- UBC International Major Entrance Scholarship, UBC Science International Scholarship
- Teaching Assistant: CPSC 304 Introduction to Relational Databases
  - Supported 300+ undergraduate students with SQL databases design and optimization, as well as JavaScript, PHP, Oracle project development