

# YULU DUAN

Combined Major in Computer Science & Statistics, 3<sup>rd</sup> Year  
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## TECHNICAL SKILLS

<b>Languages:</b>	JavaScript, Typescript, Java, PHP, R, Bash Scripting, C/C++, Python	<b>CI/CD:</b>	Jenkins, Docker
<b>Frontend:</b>	Next.js, React, Redux, Zustand, D3.js, Tailwind CSS	<b>Backend:</b>	Express, Node.js
<b>Database &amp; ORM:</b>	MongoDB, MySQL, Oracle, Prisma	<b>Testing:</b>	JUnit, TDD

## PROJECTS

<b>FlowFairy (Typescript, React, Next.js, Tailwind CSS, Zustand, MongoDB)</b>	<b>Jul. 2023</b>
<ul style="list-style-type: none"><li>Designed a Flow Chart Creator tool for students, enabling seamless integration of PDF paper previews and rich-text notes within nodes, simplifying literature review organization and resource management process.</li><li>Developed and implemented Next.js and TypeScript-based backend RESTful API, optimizing MongoDB data operations.</li><li>Built parallel and intercept routing in Next.js for the dynamic flow chart dashboard to optimize application performance and ensure smooth navigation.</li><li>Implemented state management using Zustand, and embedded Tailwind CSS for efficient, maintainable styling.</li></ul>	
<b>Question-Answering Chatbot (Python, Gradio)</b>	<b>Jun. 2023</b>
<ul style="list-style-type: none"><li>Implement Python for the backend development, leveraging Gradio for the user interface to facilitate interaction with the chatbot.</li><li>Utilized LangChain LLM to connect the Open AI API for context sourcing and reasoning, enabling the chatbot to analyze input and make informed decisions based on context.</li></ul>	
<b>Steam Games Database Application (PHP, SQL)</b>	<b>Apr. 2023</b>
<ul style="list-style-type: none"><li>Developed a database for Steam, providing customer behavior analysis for marketers and potential updates of games.</li><li>Utilized the ER Diagram and database schema derived with proper normalization to map out the relationships between entities.</li><li>Implemented PHP front-end design and executed complex SQL queries for player-friendly game discovery.</li></ul>	
<b>Notebook Application (Java, Swing, JUnit)</b>	<b>Apr. 2022</b>
<ul style="list-style-type: none"><li>Programmed in Java to construct a notepad-like application to improve learning efficiency by adding the sort, search, and display.</li><li>Utilized JSON to build the relational database in Java and developed a GUI using Java Swing to interact with the database.</li><li>Separated the frame of GUI to enhance Single Responsibility Principle and applied Test Driven Development using Junit.</li></ul>	

## WORK EXPERIENCE

<b>Web Developer</b>	<b>UBC IT Web Services</b>	<b>Sep. 2023 – Present</b>
<ul style="list-style-type: none"><li>Developed and debugged websites built on the <b>Drupal CMS</b> using <b>JavaScript</b>, <b>Tailwind CSS</b>, <b>Vue.js</b>, <b>Twig</b> on the frontend and <b>PHP</b> on the backend. Currently in-progress internship.</li></ul>		
<b>Co-Founder: Software Engineer</b>	<b>Trumpet AI</b>	<b>Jun. 2023 – Present</b>
<ul style="list-style-type: none"><li>Developed an advanced AI Agent software solution enabling one-click generation of marketing briefs for content creator.</li><li>Leveraged <b>Next.js</b>, <b>React</b>, and <b>TypeScript</b> full-stack development to integrate <b>Open AI API</b> for real-time content streaming, and utilized the strategies of <b>prompt engineering</b> to elicit more accurate and customizable responses from AI models.</li><li>Utilized <b>SSR</b> of Next.js for optimized <b>SEO</b> and page load times, while also harnessing its App routing system and nested layout approach to craft a dynamic user experience.</li><li>Designed and optimized the relational database schema, leveraging <b>Prisma</b> as the ORM tool to simplify database interactions.</li><li>Implemented comprehensive input validation and data integrity checks with <b>Zod</b>, guaranteeing reliable user interactions.</li><li>Integrated Clerk API for user authentication and Stripe API for secure payment processing.</li><li>Employed state management techniques with Redux and Context, optimizing App performance and responsiveness.</li></ul>		
<b>Projects Assistant</b>	<b>UBC VP Research and Innovation</b>	<b>Sep. 2022 – Apr. 2023</b>
<ul style="list-style-type: none"><li>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.</li><li>Implemented a nested object data structure and an array data structure to handle Many-to-Many relationships, enabling multiple values to correspond with either dimension under similar conditions by using <b>HTML</b>, <b>CSS</b>, and <b>JavaScript</b>, and <b>D3.js</b>.</li><li>Collaborated with cross-functional teams and team members: conducted weekly progress meetings and presentations to the Innovation and Partnership team, ensured timely delivery of project milestones.</li></ul>		

## EDUCATION

<b>Bachelor of Science</b>	<b>University of British Columbia (Vancouver, Canada)</b>	<b>Sept. 2021 – Jun. 2025</b>
<ul style="list-style-type: none"><li>Specialization in Computer Science and Statistics with GPA 87%</li><li>UBC International Major Entrance Scholarship for Academic achievements and Community Involvement (Amount: \$80,000)</li><li>Teaching Assistant: CPSC 304 Introduction to Relational Databases<ul style="list-style-type: none"><li>Supported 300+ undergraduate students with SQL databases design and optimization, as well as JavaScript, PHP, Oracle project development</li></ul></li></ul>		