JOSEPH DENG

josephdeng317@gmail.com | Portfolio | LinkedIn | GitHub

EDUCATION

University of British Columbia   Vancouver, BC
Bachelor of Science in Computer Science and Physics, Co-op program — 91.2% Average   *Sep 2023 – Apr 2028*

SKILLS

Languages: Python, Java, C, JavaScript/TypeScript, Assembly
Web: HTML, CSS, React.js, Node.js, Next.js, Astro.js, Bootstrap, Tailwind, Selenium
Frameworks/Tools: AWS Lambda, Bedrock, PyTorch, Git, Flask, Matplotlib, SQLite, RESTful APIs, Blender

TECHNICAL EXPERIENCE

Fullstack Developer Intern | *CS Toolkit Inc.*   May – Jun 2024
- Implemented dynamic API calls to Contentful using **Flask** to add pagination, tagging, and a search function to the company's **production blog page.**
- Engaged in a **multi-stage build and review process** with a professional UX designer, and reskinned the website to use a responsive, mobile-first layout to **improve user experience on small screen sizes**
- Followed industry best practices for **Git branching and pull requests**, successfully merged multiple contributions into the main production branch

Web Developer | *UBC BIOMOD*   Oct 2024 – Present
- Worked in a team of four to ship a **responsive, competition-ready** website in **less than 3 weeks** using Astro.js
- Finalized the production site by **reviewing several pull requests** , resolving code conflicts, and fixing critical bugs
- Implemented an eye-catching home page featuring a **controllable 3D model** of the team's microbiology project using **Three.js, Tailwind, and React**

Programmer, Designer, Builder | *VEX Robotics Team 4659A*   Sep 2022 – Mar 2023
- Worked on both hardware and software for a Disk Shooting Robot and **qualified for the provincial tournament**
- Helped implement an auto-aim system with **computer vision** to improve shooter accuracy by **200%**

PROJECTS

Urbanize AI | *AWS Lambda, Bedrock, Expo, React.js, Python* | *Demo*   Oct 2024
- Created an **AI-powered Urban Design** Improvement app that helps users identify changes that could be made in their own neighborhoods to improve sustainability, placed **top 4 out of 25+ teams** at UBC CIC Hackathon
- Implemented a serverless **AWS Lambda** function that made calls to send text and base-64 representations of images to an **generative AI model through Bedrock**
- Debugged Lambda function with Postman and CloudWatch to allow for easier testing of the API

AI Recipe Generator | *Next.js, Node.js, React.js, Three.js, OpenAI API, Bootstrap* | *Live Website*   May – Aug 2024
- Implemented a **Node.js** backend that made asynchronous calls to the **OpenAI API** to create **AI-generated recipes** based on ingredients entered by the user.
- Designed the frontend web application with React to change the visibility of elements dynamically, and used Three.js to insert a custom interactive **3D model created using Blender.**
- Refactored project to use the **Next.js app router**, enabling a **serverless deployment with Vercel**

Musical Ear Trainer | *Java, JUnit* | *GitHub*   Jan – Apr 2024
- Built an interface with Java Swing that quizzes the user on randomly generated notes made audible with MidiSynth
- Created a logical class hierarchy for storing previous quiz results which allowed the user to write and read their data to and from **Json and SQLite**
- Designed a **comprehensive test suite using JUnit** to maintain a production-ready codebase.

ADDITIONAL WORK EXPERIENCE

Program Assistant | *Shad Canada*   Jun – Jul 2024
- Dedicated **90+** hour weeks to facilitate a STEAM program involving workshops and student-led entrepreneurship projects, displaying an unwavering sense of responsibility and commitment to student growth and innovation
- Maintained an engaged and respectful audience of **64** high school students during long hours of lectures & workshops, demonstrating strong leadership, patience, and communication skills
- Presented an interactive beginner-friendly workshop on 3D modeling using Blender.