

MASTAAN RANDHAWA

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SKILLS

Technical Skills - Python, C/C++, Assembly, JavaScript, HTML/CSS

Frameworks - Bootstrap, ReactJS, ThreeJS, SpringBoot, TailWind, PySpark, Pandas, SciKit

Others - Git, GitHub, MongoDB, MySQL/SQL/SQLite, Figma, Firebase, Render, Docker, AWS, REST API

PERSONAL PROJECTS

Amenity Recommender

February - April 2025

- Built a Python-based pipeline to ingest, clean, and smooth OpenStreetMap and GPX data using Kalman filtering.
- Achieved up to 50x improvement in data processing efficiency by using Pandas over standard Python list operations.
- Parsed over 100,000 amenities and landmarks to develop map visualizations and automated CSV/PNG.

Website Template

December 2024 - Present

- Developed a modern, responsive template tailored for churches, using React and AWS for seamless deployment.
- Created a sermons viewing feature to increase user engagement by 40%.
- Ensured the template was perfect on mobile devices, enhancing accessibility and user experience.

Akwraps.ca

June - September 2024

- Developed a web service and database used by over 500 customers, increasing website impressions by 250%.
- Implemented Thymeleaf for server-side rendering, enhancing deployment efficiency by 30% using Docker.
- Utilized ThreeJS to create interactive car models and wraps to enhance user experience.

TECHNICAL PROJECTS

RISC-V Processor

September - December 2023

Operating Systems (CMPT 295), SFU

- Developed a RISC-V processor to explore how processors execute instructions at the hardware level.
- Implemented custom SLT-type instructions using C/C++/Assembly to extend base functions, enhancing processing capabilities by 15%.

Multi-level Cache System

September - December 2023

Operating Systems (CMPT 295), SFU

- Designed and managed multi-level cache systems to address challenges in reducing cache misses and latency, achieving a 25% reduction in cache misses.
- Implemented advanced caching functions using C/C++, including LRU and LFU eviction algorithms.

EXPERIENCE

Executive

November 2023 - Present

Google Developers Student Club, Burnaby, BC

- Designed visuals for 30+ GDSC events, producing 90+ social media assets (posts, stories, banners, posters) and boosting RSVPs and engagement by 25%.
- Led tech initiatives and created solutions aligned with the club's vision to equip peers with new skills.

OTHER WORK

Vision Centre Associate

June 2021 - Present

Walmart, New Westminster, BC

- Sold eye care products, generating over \$50,000 in revenue.
- Helped increase average sales by \$150 through effective customer engagement.
- Collaborated with optometrists and the team to deliver optical solutions, ensuring seamless patient care.

EDUCATION

BSc. Degree Computer Science

June 2022 - Present

Simon Fraser University, Burnaby, BC