Gurshan Singh Aulakh

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EDUCATION

Simon Fraser University   Burnaby, BC, Canada
Bachelor of Science in Computer Science   Jan. 2022 – Expected Graduation Date: Dec. 2026
Availability: **4, 8, 12, or 16-month co-op**

TECHNICAL SKILLS

Languages and Operating Systems: Java, Kotlin, C#, Python, C, C++, JavaScript, HTML, CSS, Linux
Frameworks & Libraries: Next.js, FastAPI, React, Redux, Tailwind CSS, Express.js, Spring Boot
Databases & Cloud: MongoDB, SQL, AWS (EC2, S3, Lambda)
Software Development & Tools: Bash/Shell scripting, RESTful APIs, Docker, Kubernetes,
Git/GitHub, CI/CD pipelines, Postman, Agile Scrum, Kanban, SDLC methods, Networking Protocols
Testing & QA: Unit Testing, Test Driven Development, Automated & UI/Functional Testing
Modeling & Design: UML diagrams, CRC cards, MVC design, Object-Oriented Programming (OOP)

WORK EXPERIENCE

Consulting Lead   *Jul. 2025 – Present*
SFU Hackathon   *Burnaby, BC*
- Guided 10+ student tech teams in defining project goals, evaluating software solutions, and **implementing improvements** that enhanced functionality and outcomes.
- Delivered **progress reports** to mentors and judges, enhancing their understanding of each team's technical decisions.
- Analyzed emerging technologies used by teams and **recommended optimization strategies** to improve efficiency.

Full Stack Developer   *Jan. 2025 – Present*
CJSF 90.1 FM   *Burnaby, BC*
- Implemented **server-side rendering** (SSR) and optimized Next.js data-fetching, reducing page load time by 35% and improving overall website performance.
- Built and maintained **CI/CD pipelines**, reducing deployment time by 50% and boosting release success rate by 25%.
- Collaborated with cross-functional teams on GitLab to deliver iterative, high-quality features using **Agile**.

Augmented Reality   *Jan. 2025 – Feb.2025*
Research Work Study at SFU   *Burnaby, BC*
- Built an **image-tracking AR experience** in Unity that anchors virtual objects to tracked images with real-time alignment and rotation.
- Integrated Google MediaPipe Hand Tracking with Unity via **UDP sockets**, enabling seamless real-time streaming of hand landmarks.
- Developed an **AR gesture interaction system** in Unity, mapping hand poses to virtual models for intuitive actions like grab, rotate, and move.

PROJECTS

MindStream AI | *React, Firebase, Node.js* | *https://mindstreamai.onrender.com/*   *Apr. 2025 – Jul. 2025*
- Developed a study aid app with features like flashcards, podcasts, quizzes, summaries, a chatbot, and a planner, all designed to be interactive and genuinely helpful for users.
- Integrated **Firebase Authentication** for secure Google sign-up/login, with data stored in **Firestore** to enable real-time updates of user resources
- Utilized **Postman** to test REST APIs, ensuring seamless backend communication and dynamic content fetching.
- Conducted **unit testing**, **maintained documentation**, and followed **Kanban Agile** for continuous improvement.

Capture the Star| *Python, Networking Protocols*   *Jan. – Apr. 2025*
- Built a real-time **multiplayer game** using **TCP sockets**, enabling smooth, simultaneous player interactions.
- Developed a **multithreaded server** with s**ynchronized** game state, ensuring accurate updates for all players.
- Implemented exclusive item collection logic for shared objects, guaranteeing fairness during simultaneous interactions.