

Bishesh Khanal

403-404-5033

❖ khanalbishesh12@gmail.com ❖

 [LinkedIn](#)  [Github](#)  [Portfolio](#)

EDUCATION

University of Calgary

September 2020 - Present

Bachelor of Science: Computer Science & Biological Sciences | GPA: 3.6

- **Relevant Courses:** Distributed Systems; Networks; Operating Systems; Data Structures & Algorithms; Databases; Network Security; Object-Oriented Programming; Cyber Security; Computing Architecture; Theoretical Computer Science

EXPERIENCE

Schulich Ignite | Marking Commissioner

July 2023 - May 2025

- Co-led a team of 7 to mark the advanced weekly Python exercise submissions from 50+ students.
- Contributed to the timely execution of the year-end gala for 300+ students by assessing their final projects within 3 days.

Nepsa Ucalgary | Co-Founder & Technical Executive

February 2023 - Present

- Co-founded and grew a community of 50+ Nepali students by coordinating events and digital outreach through club website.
- Acted as the tech coordinator for logistics, audio-visual setup, and ticketing systems to handle events of 100+ participants.
- Collaborated with other executives to digitize internal processes and communication using Google Workspace.

PROJECTS

[ZenMate-Meditation App | \(In Progress\)](#) | Expo (TypeScript React Native), AWS, Django, Supabase, Render

- Architected a mobile meditation app allowing users to track, share, and study their meditation sessions.
- Constructed an intuitive, user-friendly UI and coordinated frontend navigation, increasing user experience.
- Integrated AWS EC2 AI chatbot with Phi-2 LLM, attracting more user engagement.
- Designed and migrated custom backend models to Supabase PostgreSQL, boosting database uptime to 99%.

[Quiplash-inspired Distributed Text Chat Game](#) | React, FastAPI, Docker

- Built a real-time multiplayer game supporting up to 8 single-game concurrent players.
- Reduced unrecoverable crashes by 90% by implementing a custom distributed systems architecture with servers and proxies.
- Minimized the discrepancy among client timers to < 1 second by incorporating a custom server-side master clock.
- Coordinated backend/frontend fetching logic, increasing system reliability and smooth user experience.

[SecureWebSuite](#) | Java, TLS, SHA256

- Programmed a custom multithreaded HTTP/HTTPS server/client system in Java.
- Reduced errors in data transfer by 80% through secure parsing and saving on the web client.
- Applied thread pools on the server, raising reliability multiple-fold by accommodating concurrent users.
- Established a SHA256 handshake between server and client endpoints, reducing security risks by 90%.

[Indie-Bunny Game Marketplace](#) | React, Django, PostgreSQL, Supabase, Render, Vercel

- Engineered the UI through frontend navigation, improving user experience, and raising engagement.
- Improved code reusability and sped up API queries by 30% through optimized API views on the backend server.
- Designed a custom SQL Database schema and improved database speed by 20% by implementing optimal SQL queries.
- Integrated Firebase Auth for secure user login, replacing a custom user pool, cutting auth errors by 70%

SKILLS

- **Languages:** Python (FastAPI, Django), Java, ARMv8, C/C++, JavaScript (React.js), TypeScript(Expo React Native), SQL, Firebase Auth, HTML/CSS, JSON, GO
- **Tools:** Docker, Supabase, Render, Vercel, AWS (EC2), TLS (Java Sockets), Expo, Git, Next.js, Pandas, NumPy
- **Development Areas:** Backend API development, distributed systems, authentication & authorization, payment integration, database design & management, multithreaded server/client architecture, AI chatbot integration, Version control, UNIX-based systems
- Lab research techniques (PCR, gel electrophoresis, microbiology protocols)