Manav Joshi

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EDUCATION

University of Alberta — Expected Graduation April 2025
BSc in Electrical Engineering
- Relevant Coursework: Digital Logic Design, Microprocessors, Electrical Circuits I & II, Signal Processing

EXPERIENCE

Full Stack Developer Intern — December 2023 – February 2024
Jam — *Edmonton, Canada*
- Developed REST API for back-end using Express.js, JavaScript, and TypeScript.
- Handled user data and application data using MongoDB.
- Developed documentation for data models and code for use throughout project.
- Developed front-end web application using Next.js, JavaScript, TypeScript, Tailwinds CSS, and HTML.

Gameplay Programmer — March 2023 - September 2023
Gamefam — *Edmonton, Canada*
- Developed game mechanics for multi-platform games using Lua, generating 21.2 million unique game plays.
- Reduced game memory usage by 36% using Lua, leading to 17% increased player retention.
- Developed system to aggregate and display user data and game analytics remotely to an external platform using React, JavaScript, HTML, and CSS for the front-end and Flask and Python for the back-end.

CyberSecurity Engineer — September 2019 – Present
Old Scona Academic — University of Alberta — *Edmonton, Canada*
- Participate and lead in multiple CyberSecurity clubs/organizations and international competitions.
- Placed 3rd at CyberSci Regionals Calgary — Placed 7th in Canada at CyberPatriot Semi-Finals
- Peak rank of 42nd in Canada during PicoCTF — Placed 2nd in the University of Alberta HTB Challenge
- **Used:** Linux, Web Exploitation, Reverse Engineering, Binary Exploitation, Prompt Engineering

LEADERSHIP

Vice President - Communications — April 2023 - Present
Electrical Engineering Club — *Edmonton, Canada*
- Elected to promote interests of the Electrical Engineering student body at the University of Alberta.
- Collaborate with other engineering discipline clubs to advertise and promote mutual endeavors.

PROJECTS

GamEE Lite | *Arduino, C++, Circuit Design, Soldering, React, JavaScript* — February 2023
- Won in E2C2, hardware/electrical engineering hackathon.
- Created a modular Arduino-based gaming console with easily modifiable games running on an LCD display.
- Programmed multiple different games for initial users and core system using C++.
- Designed digital platform using React.js to share new games for the console to motivate users to learn coding.
- Soldered components together on stripboard cleanly to ensure circuits functioned as intended.

SafetyVision | *Flask, React, Python, JavaScript, HTML, CSS, Firebase, Twilio* — January 2023
- Won 1st place in HackEd 2023, one of Alberta's largest hackathons.
- SafetyVision is a web app that runs a system of low tech cameras that detect and display weapon risks to a dashboard administered by local law official personnel to warn communities.
- Developed a full-stack web application with Flask & Python serving a REST API and React as the frontend.
- Implemented YOLOv5 image recognition AI model to detect and capture images of weapons on cameras.
- Integrated Firebase Real-time database to store and access user data with password salting for user auth.
- Added Firebase database to store previous security threats to compile a global risk map for weapon violence.

TECHNICAL SKILLS

Languages: Java, Python, C, C++, SQL, JavaScript, HTML, CSS, MATLAB, VHDL, ARM Assembly
Frameworks: React, Node.js, Flask, Express.js, Vue.js
Developer Tools: Git, Docker, Firebase, MongoDB
APIs: OpenAI, ChatGPT, Twilio, X, Generative AI, Maps