

Balkarn Gill

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[portfolio](#) | [linkedin](#) | [github](#)

EDUCATION

Master of Software Engineering (M.Eng) - Emphasis in Machine Learning

University of Calgary | GSA Academic Vice Chair | 4.0 GPA

Graduating: May 2024

Calgary, AB

Bachelor of Biomedical Engineering (B.Eng)

University of Guelph | Dean's Honour List | Robotic's Team | Engineering Society

Graduated: May 2022

Guelph, ON

SKILLS

Programming Languages Python | Java | JavaScript | HTML | CSS | Typescript | Swift | C | C++ | PHP | MATLAB
Technologies MySQL | Firebase | MongoDB | Node.js | Docker | Kubernetes | Azure | RESTful APIs | JUnit
Data Science & Frameworks Pytorch | Scikit-learn | Pandas | NumPy | React.js | Tailwind CSS | Angular | Django

EXPERIENCE

Back-End Developer

Jan 2024 - Present

CircleCVI | (Internship)

Calgary, AB

- Engineering robust **MySQL Stored Functions/Procedures** to ensure database integrity and consistency, vital for maintaining reliable **DICOM data**.
- Utilizing **Python for scripting and automation**, streamlining back-end processes and improving overall **data management workflow**.
- Playing a key role in improving the in-house tool for **managing DICOM data**, significantly boosting **data access efficiency** and meeting diverse development and testing needs.

Systems Analyst

Jun 2023 - Dec 2023

Zedcor | (Part-Time)

Calgary, AB

- Proactively monitor **Genetec system performance**, identify bottlenecks, and implement optimization strategies to enhance system reliability and performance.
- Configure and **program sensors using PHP and MySQL** to enhance security measures and ensure efficient monitoring of critical areas.
- **Increased system efficiency by ~5%** by optimizing red zones, filters, and **training object analytic models**.

Full-Stack Developer

Sep 2021 - Apr 2022

Carnostic Inc. | (Internship)

Toronto, ON

- Assisted the team to build **front-end and back-end** product features from start to finish: through conception, research, implementation, and maintenance.
- Contributed to the development of the **Android user interface** utilizing **Sketch to visualize** the design and **Java for implementation**.

NOTABLE PROJECTS

Improving Nutrition for Medically Complex Children - iOS Application

Feb 2024 - Present

Full-Stack Developer

Calgary, AB

- Collaborated closely with nurses from Alberta Health Services to develop an innovative **iOS application** aimed at enhancing nutrition for medically complex children. Utilized **Swift and Firebase** to create a user-friendly and accessible mobile app. **Machine learning algorithms** were implemented to personalize feeding plans and a **chat-bot that interacted with the database**.
- Achieved **2nd place in a competitive hackathon** event and currently contributing to further development.

Neo Financial's "Tech Thursdays" Web Application

Aug 2023 - Dec 2023

Full-Stack Developer

Calgary, AB

- Contributed to the development of an event-specific website for Neo Financial's tech events in Calgary & Winnipeg, working closely with the Marketing Director. Utilized **React for front-end** and **Drupal for back-end** to boost user engagement and visibility.
- **Collaborated with a development team** to implement features including user auth, event and speaker management, registration/ticketing, sponsor partnerships, and email communications.
- Culminated in a successful **transfer of ownership** and earned a **letter of recommendation from the company**.

Autonomous Plant Disease Detection Robot

Jan 2022 - Apr 2022

Software & Circuitry Lead

Guelph, ON

- Led the development of an autonomous "Pathfinder" robot capable of navigating through plant rows, avoiding obstacles, and identifying plant diseases, utilizing **Arduino for sensor integration** and **Raspberry Pi for hyper-spectral camera programming**.
- Engineered the system with **temperature, humidity, and ultrasonic distance sensors**, alongside Wi-Fi **data transmission capabilities**. Secured **1st place** in the university's W22 innovative engineering design competition.