

# Simardeep Dhanda

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## EDUCATION

### McMaster University

*Bachelor of Engineering in Software Engineering*

Hamilton, ON

*Sept 2023 – Apr 2027*

## EXPERIENCE

### Software Developer

Jan. 2025 – Present

*McMaster Exoskeleton*

*Hamilton, ON*

- Increased load-carrying capacity by 40% and reduced operator fatigue by 30%, as measured by controlled exoskeleton trials, by implementing embedded C++ control systems with real-time sensor fusion, adaptive gait control, and closed-loop motor feedback.
- Improved sensor calibration accuracy by 30% and reduced system integration time by 40%, as measured by testing and deployment metrics, by developing automated data acquisition, testing, and diagnostic tools that unified mechanical, electrical, and software telemetry.
- Enabled real-time assisted gait prediction on embedded hardware, as measured by latency-safe control loop performance, by training PyTorch machine learning models for gait prediction and integrating them into microcontroller-based exoskeleton control loops.

### Software Developer Coordinator

Dec 2023 – Sept 2025

*Canada Learning Code*

*Toronto, ON*

- Led 20+ immersive technology bootcamps for 100+ Greater Toronto Area students, improving participant coding proficiency by 40% as measured by pre/post assessments, by utilizing challenge-based curricula and delivering instruction in Python, JavaScript, and SQL.
- Enhanced learning experience, increasing participant satisfaction scores and reducing project delivery time by 20%, by coordinating cross-functional teams and centralizing updates and documentation in Jira and Notion

## PROJECTS

### MealMap - McMaster Campus Meal Planner | *Python, FastAPI, SQL, Supabase, Next.js, React, TypeScript*

- Developed MealMap, increasing student access to real-time campus meal and nutrition data and reducing average meal-selection time by 35% by scraping the McMaster Nutrition Services website to deliver live menu items.
- Built a personalized meal-planning experience that reduced users' average meal costs by 20% by implementing a React UI for dietary and budget input.
- Designed a PostgreSQL schema for user history, reducing average query latency by 40% by normalizing data models and adding targeted indexes.

### Book Finder - Multi-Library Book Search Engine | *Node.js, Express.js, JavaScript, YAML, HTML, CSS*

- Built a Node.js and Express web app that surfaced real-time ISBN availability across 6+ library systems, reducing manual lookup time by 90% through consolidated catalogue APIs.
- Implemented a modular adapter system with YAML-configurable integrations and robust error handling, improving API reliability 2x.

### Disease Detection with EHR Machine Learning | *Python, Pandas, NumPy, scikit-learn, Matplotlib*

- Developed logistic regression and SVM classifiers for EHR data, achieving 91.5% accuracy and > 0.90 ROC-AUC through feature engineering and hyperparameter tuning; earned 2nd place at Canada's Science Fair.
- Improved predictive accuracy by 12% and reduced training time by 25% by refining null handling and feature engineering.
- Implemented a user-friendly prototype interface for medical professionals, reducing diagnostic turnaround time by 35%, by delivering immediate disease-detection alerts.

## TECHNICAL SKILLS

**Languages:** Python, Java, C++, JavaScript, TypeScript, SQL, HTML/CSS, Bash, MATLAB

**Frameworks & Libraries:** React, FastAPI, Node.js, Express.js, TensorFlow, NumPy, Pandas, Tailwind CSS

**Tools & Platforms:** Git, GitHub, VS Code, PyCharm, Jupyter Notebooks, PostgreSQL, Google Cloud Platform (GCP), AWS, Azure, Vercel