

# Simarpreet Kaur

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## EDUCATION

### McMaster University

*Honours Computer Science (B.A.Sc.)*

Expected Graduation: 2026

### St Lawrence College

*Computer Networking and Technical Support*

Sept 2017 – June 2019

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## TECHNICAL SKILLS

**Languages & Tools:** Python, SQL, JavaScript, HTML/CSS, Git/GitHub, Jupyter, Tailwind

**ML / AI:** PyTorch, Sentence-Transformers (SBERT), scikit-learn, XGBoost, NLTK, langdetect; NLP (semantic search, embeddings, tokenization, extractive summarization), Transformers; model serving/inference

**Data / Viz:** Pandas, NumPy, Matplotlib, Seaborn, Tableau, Power BI, Excel, PowerPoint

**Foundations:** Data Cleaning, EDA, Linear Algebra, Calculus

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## PROJECT EXPERIENCE

### Calorie Estimator (LLM Vision)

Developed a full-stack web app that estimates nutrition from food images using GPT vision.

- Leveraged OpenAI's multimodal LLM (GPT) to analyze food images and extract nutritional insights.
- Engineered prompts for reliable structured JSON outputs (calories, fat, protein, serving size, confidence).
- Integrated LLM-driven inference into a Flask service for real-time nutritional analysis.

### Multilingual News Explorer (NLP)

Designed a cross-lingual semantic retrieval and summarization app over multi-locale news feeds.

- Built semantic search with multilingual SBERT, enabling retrieval across 8 languages (EN/FR/ES/DE/IT/PT/HI/JA).
- Implemented extractive summarization via SBERT similarity graphs, producing concise multilingual briefs.
- Deployed a Flask-based inference API (PyTorch-backed) with precomputed embeddings, supporting fast (<200ms) query responses.

### Employee Retention Prediction – Salifort Motors

Predicted employee turnover using ML models to inform HR decisions and reduce costs.

- Achieved 95%+ accuracy with ML models (Logistic Regression, Random Forest, XGBoost) predicting employee turnover
  - Analyzed 15,000+ HR records to uncover attrition drivers like department, workload, and hours
  - Derived insights to support retention strategies and lower recruitment costs
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## WORK EXPERIENCE

### Customer Service & Leadership Roles

2019 – Present

- 6+ years in leadership and client-facing roles, building strong communication, problem-solving, and teamwork skills.
- Trained, mentored, and supervised junior staff, improving collaboration and operational efficiency.
- Recognized for reliability, adaptability, and the ability to thrive in fast-paced environments.