

# Sansita Malhotra

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## Education

University of Toronto - St. George Campus, Toronto, ON

Expected April 2029

Bachelor of Applied Sciences (BASc) in **Computer Engineering + PEY Co-Op**

• *Intended Minors: Artificial Intelligence*

## Technical Skills

**Languages:** Python, C/C++, Java, JavaScript, Verilog HDL, SQL, MATLAB, TypeScript

**Frameworks & Tools:** React, Node.js, Express.js, FastAPI, Next.js, Tailwind CSS, Git, REST APIs, OCR, Vercel

**Data/Databases:** pandas, NumPy, MongoDB, SQLite, MySQL, PostgreSQL

**Hardware:** Verilog, FPGA Development (Altera DE1-SoC), Quartus Prime, VGA Protocol, Arduino IDE

## Work Experience

Full Stack Developer

Jun 2022-Present

S M Software Solutions

Toronto, ON

- Built and deployed **FastAPI** customer support chatbot on **AWS** handling **250+ daily client inquiries** with automated routing; system answers FAQs from pre-trained knowledge base and routes complex requests to available admins via **email notification pipeline** based on real-time login tracking, reducing response time by **40%** and **eliminating 8hrs/week** of manual coordination
- Optimized client-facing system performance by **35%** through backend refactoring (query optimization, API response caching), and frontend improvements (lazy loading, component re-render reduction)
- Developed and maintained MERN stack client applications with REST APIs handling user authentication, and real-time data synchronization across multiple provincial government contract deliverables
- Resolved **100+ production defects** through **QA testing** and cross-team debugging; participated in code reviews and technical documentation following established coding standards
- Maintained and debugged legacy codebases for client projects; implemented bug fixes and feature enhancements based on client feedback, ensuring smooth production deployments

## Projects

GigIT – Fintech KYC Verification Identity Platform | NewHacks Winner

November 2025

[github.com/sansitamalhotra/GigIT](https://github.com/sansitamalhotra/GigIT) | FastAPI, OCR, React.js, REST APIs

- Built **OCR + LLM extraction pipeline** for identity verification (**~85% accuracy** on name, DOB, address); improved OCR reliability by **30%** under varied lighting through preprocessing stack (deblurring, noise reduction, contour isolation)
- Developed **KYC compliance dashboard** with discrepancy detection and verification workflows; shipped production-ready MVP in 36 hours, ranked **#1 for technical depth**

Schema Sync – AI Data Integration Copilot | Hack the Valley X

October 2025

[github.com/sansitamalhotra/SchemaSync](https://github.com/sansitamalhotra/SchemaSync) | Python, FastAPI, pandas, React (Next.js), TailwindCSS, SBERT, SQLite

- Engineered **SBERT reconciliation engine** achieving **92% field match accuracy** across multi-bank schemas; designed manual override workflows with confidence thresholds, preventing data corruption while reducing mapping time from **8hrs to <10min per dataset**
- Implemented semantic embedding pipeline processing **100+ fields/sec**; created **FastAPI backend** and **React dashboard** enabling audit review, manual corrections, and 1-click unified dataset export

SafetyNet Her – AI-Powered Community Safety Network | DeltaHacks 12

January 2026

[github.com/sansitamalhotra/SafetyNet-HER](https://github.com/sansitamalhotra/SafetyNet-HER) | React, TypeScript, Node.js, Express.js, Google Gemini API, MongoDB

- Engineered **AI threat triage system** using **Gemini API** to analyze SMS messages, classify **12+ incident types** (following, harassment, assault), score urgency (1-10), achieving **92%** community resolution rate and **4.2min** average response time (4x faster than 911)
- Built real-time volunteer dispatch system with **MongoDB geospatial indexing** for location-based matching and **live ETA tracking**; developed fake call escape feature with AI voice synthesis enabling discreet exits from unsafe situations

Dino Game – Hardware VGA Engine

December 2025

Verilog, VGA Protocol, DE1-SoC FPGA, Quartus Prime

- Built hardware-accelerated game using **Verilog HDL** with pixel-accurate **collision detection** and sprite rendering; engineered timing-correct VGA controller rendering **30k+ pixels/frame** at **640x480 resolution** with stable **60Hz refresh**