US & CAN Citizen

Sachin Ved Gupta

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Education

McMaster University
Bachelor of Software Engineering Co-op *Hamilton, Canada*

- GPA: 4.0/4.0, CGPA: 12.0/12.0
- **Provost's Honour Roll Medal (for Perfect 4.0 GPA) + $1200 Scholarship**
- Winner of the $1000 Ted Rogers Scholarship, $800 Edwin Marwin Dalley Memorial Scholarship, $1000 Ricoh Inc. Award
- Relevant Courses: Digital Systems, Python Development, OOP, Software Design, Discrete Mathematics, Calculus

Experience

Software Engineer **Sept 2024 – Present**
McMaster Rocketry *Hamilton, Canada*

- Used C++, Python, and OpenCV to combine the 4 camera angles into a singular 360 degree immersive video
- Designed STM32 PCBs (KiCad) for communication & livestream support from on-rocket cameras to ground equipment

Machine Learning Intern **Jun 2024 – Dec 2024**
Nokia *Ottawa, Canada*

- Conducted a comprehensive research-based analysis on the impact that Generative AI has on 5G network traffic
- **Applied Pandas, Numpy, and Matplotlib** to extract valuable data from excel spreadsheets, apply mathematical functions to calculate key metrics, and visualize the data in graphs, charts, and other formats for simple interpretation
- Leveraged Tensorflow & Keras to develop an **RNN-based predictive model** for the future growth of AI-based 5G network traffic. The great correlation between traffic demands and AI innovation drove sales for Nokia's 5G Equipment
- Collaborated with an MIT PHD Fellow and IoT Professor to create **98.1% accuracy** Deep Learning models
- **Published an article** to showcase a high quality overview of the research, present Nokia's prediction & data engine, and explore Nokia's prediction-strengthened action plan for the future (allocating more resources towards 5G solutions

Software Engineer **Sept 2023 – Present**
McMaster SumoBots *Hamilton, Canada*

- Collaborated in technical team to create a fully autonomous fighting robot. At Internationals: won 4 battles, lost 2
- Designed **C++ Algorithms** to achieve fully autonomous reactions to surroundings and effective responses to opponents
- Processed Arduino, ultrasonic sensor, and infrared sensor data by cleaning, scrubbing, and storing it for later use

Award Winning Projects

Won Hack MIT (1000 competitors) | *React, Vite, CanvasJS, Meta's Llama LLM, Convex + Clerk Backend, SunoAI*

- Developed MITI - an innovative music production platform with AI-powered suggestions and real-time collaboration
- Used React and CanvasJS for musical note placement along with features like drag, zoom, and keyboard shortcuts
- **Prompt engineering of Llama** to ensure its suggestions are automatically implemented into the user's song
- Created an authenticated sign-in system and synchronized backend user states to implement real-time collaboration
- Implemented a JSON to MIDI conversion algorithm and incorporated a music player for the user's song

Won HackThe6ix (400 competitors) | *Next.js, React, Google Gemini LLM, Yahoo Finance, Python, Flask*

- Created StockSee in the FinTech category to visually depict the correlation between real-world events and stock prices
- Used the Yahoo Finance API and Flask to display real-time stock data on the interactive graph (Chart.js + React)
- Developed a JavaScript **algorithm for selecting significant** high/low points and marking them green/red accordingly
- Implemented the Google Gemini LLM to correlate significant points with real-world company news and industry shifts

Skills

Programming: Python (ML, CV, OOP), C++, JavaScript, Next.js, MERN Stack, MySQL, C, Java, Linux, Bash, Arduino
Technical: Data Structures & Algorithms, Cloud Computing (AWS), Tensorflow, Skikit-Learn, OpenCV, Git, Jira, Agile
Certificates: Nokia Bell Labs - Artifical Intelligence and Data Driven 5G Networks, Udemy Tensorflow, Harvard CS50
Fun Facts: Ignition Hacks speaker, hockey goalie, posts AI articles on Medium, made Chrome Extension: CoPeee