

# Abaan Noman

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## EDUCATION

### Carleton University

Ottawa, ON

Honours Bachelor of Computer Science, AI/ML stream

Expected Graduation, December 2027

GPA: **4.0/4.0**

- **Relevant Coursework:** Data Structures and Algorithms, Object-Oriented Programming, Discrete Math, Systems Programming, Statistics and Probability

## AVAILABILITY

Available for 4-8 months, beginning May 2025

## TECHNICAL SKILLS

**Programming:** Java, Python, HTML/CSS, JavaScript

**Tools/Frameworks:** NLP, LLM, RAG, PyTorch, REST API, finBERT, Alpaca, Flask, OpenCV, JavaFX

## EXPERIENCE

### Ottawa Carleton District School Board

Oct. 2022 – April 2023

Computer Science and Math Tutor

Ottawa, ON

- Developed learning plans for **40+** students to enhance their understanding of computer science and math concepts
- Used **Python** and **Desmos** to create interactive educational tools, including **simulations** and **visualizations**
- Explored ways to visualize **programming collaboration** in a classroom setting

## PROJECTS

### AI Trading Bot | Python, PyTorch, FinBERT, REST API, Alpaca API, Lumibot

- Developed an AI trading bot using Python and **Alpaca API** integrated with **Lumibot** and **YahooDataBacktesting**
- Implemented real-time sentiment analysis using **FinBERT** and **PyTorch**, enhancing financial decision-making with **99%** accuracy
- Utilized **REST API** calls to Alpaca for data retrieval and trade execution, ensuring swift market responsiveness
- Achieved a remarkable **68.56%** annual return on **\$SPY** in back testing, demonstrating the strategy's effectiveness

### Personal AI Doctor (P.A.I.D) | Python, Flask, JavaScript, HTML, CSS, RAG, NLP, LLM

- Created a web-based application for medical diagnosis using advanced **AI** techniques, including **LLMs** and **RAG**
- Integrated **LLAMA 3 70B** to convert user input into keywords and **Mixtral 8x7B** to process information from **vector databases** for accurate responses
- Designed a user-friendly interface with **HTML**, **CSS**, and **JavaScript**, and built the backend with **Python** and **Flask** for secure **API** communication
- Optimized the system for real-time, relevant AI-generated medical advice, ensuring easy customization and deployment on any infrastructure

### Motion Detection Security System | Python, Tkinter, OpenCV

- Created a Python-based security camera system using **OpenCV** for image processing and Tkinter for the frontend
- Optimized motion **detection algorithm** to achieve **85%** accuracy in detecting and tracking motion
- Established local video storage with automatic recording stop for efficient **space management**

### Ecommerce Electronics Store | Java, JavaFX, MVC

- Constructed an Ecommerce store using **Java** with a fully functioning **GUI**
- Designed a **GUI** using **JavaFX**, adhering to the **MVC** paradigm for modularity and future scalability
- Integrated product browsing, cart management, and checkout functionalities, enhancing **user experience** and **operational efficiency**