HAIDER MALIK
Toronto, Canada

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Profile Summary

- **2nd-year Software Engineering student** at **York University** with a **strong foundation in programming**.
- Proficient in **Python**, **Java**, and J**avaScript**, with experience in frameworks like **React**, **Spring Boot** and **Django**.
- **Skilled in machine learning** with **TensorFlow**, **PyTorch**, and **Scikit Learn**, developing innovative **AI-powered tools**.
- **Strong communication** and **collaboration skills** honed through technical and non-technical roles.

Education

York University   Expected Graduation Date: **April 2027**

BEng in Software Engineering (Specialization in Big Data)   Toronto, Canada

Relevant Coursework

- Intro and Advanced OOP
- Embedded Systems
- Data Structures
- Software Development Project
- Computer Organization
- Mechatronics Programing

Technical Skills

Programming Languages: Python, Java, JavaScript, TypeScript, HTML, CSS, C, C++, C#, Kotlin, Swift, SQL, R

Dev Tools/ Frameworks: Git, Django, Flask, React Native, ReactJS, Next.js, Node.js, Spring Boot, .NET, Kubernetes, Docker, AWS, Google Cloud, REST API, TensorFlow, PyTorch, Scikit Learn, Pandas, NumPy, Matplotlib, Streamlit

Databases: SQL, PostgreSQL, SQLAlchemy, MongoDB, Google Firebase, Chroma DB, Oracle

Projects

Neural Network Circuit Optimizer | *Python, TensorFlow, PyTorch, Scikit Learn, Pandas, Matplotlib, Pytest, SQLAlchemy*

- Developed an **AI-based tool** to optimize digital circuits using **machine learning algorithms**, **neural networks**, and circuit simulation, improving efficiency and performance by **up to 35%**.
- Implemented a **neural network** for optimizing circuit efficiency by reducing component count, power consumption, and execution time, achieving a **30% reduction** in circuit execution time.
- Visualized optimization results using **Matplotlib**, and integrated **SQLAlchemy** to store, query, and track circuit data, enabling easy **analysis and performance evaluation**. Used **Pandas** for **data manipulation and analysis**, and **Pytest** for **unit testing** to ensure the reliability of the optimization process.

Smart Paper Summarizer | *Python, Pandas, Jupyter Notebook, PyPDF, Streamlit, OpenAI, Chroma DB, Docker*

- Developed an **AI tool** to summarize educational PDFs, using **PyPDF** for text extraction and **OpenAI's GPT- 4 mini** for generating concise, single-sentence summaries, reducing the original text by **up to 99%**.
- Implemented **Chroma** for storing and querying **text embeddings**, ensuring context-rich retrieval for accurate response, improving query speed **by 40%**.
- Designed a **Streamlit-based UI** for easy PDF upload, viewing, and displaying **structured summaries** with citations.

Chess Engine + Custom AI Chess Bot | *Python, Pygame*

- Developed a **chess bot** using my own **chess engine** with multiplayer and **AI-powered** bot capabilities. achieving an **Elo rating of 1200** for the bot's performance in simulated matches.
- Implemented powerful **greedy algorithms** such as Negamax, Recursion, and Alpha-Beta pruning to enhance the bot's decision-making capabilities, reducing computation time **by 40%** and enhancing the bot's **strategic depth**.
- Designed an aesthetic, user-friendly **front-end UI** with **Pygame**, enhancing the **user experience** of the chess game.

Non-Technical Experience

Program Assistant | *The Leacock Foundation, Toronto, Canada*   *June 2022-Aug 2023*

- **Worked full-time and part-time** at 3 different **Childers camps** in my community throughout the year as a **program assistant**. These included **summer camps**, **Saturday camps** and **math camps**.
- Developed strong **communication skills** by interacting with children, parents, and staff, while also enhancing my **professionalism** in diverse **educational and recreational environments.**