Prakhar Saxena

+1 647-336-0881 | saxenp4@mcmaster.ca | prakharsaxena.dev | linkedin.com/in/prakharsaxena5 | github.com/Luciferr5

EDUCATION

McMaster University — Hamilton, ON
Bachelor of Applied Science in Honors Computer Science, Minor in Statistics — *May 2027*
- **McMaster Award of Excellence:** Final admission average in the top 10% of the Engineering faculty.
- **Related Coursework:** DSA, SQL, Computer Architecture, OS, Concurrent Systems, Compilers, Cryptography, Statistics, Intro to Entrepreneurship, Micro-Economics.

EXPERIENCE

Incoming Data & AI Intern — May 2025
Ernst & Young (EY) — *Lagos, NG*

Machine Learning Research Assistant — January 2025 – Present
McMaster University - ChemAI Lab — *Hamilton, ON*
- Collaborated with a team on the development of a **multi-modal molecule prediction model**(Spectro) using IR and NMR data to explore applications of **AI** in chemistry at McMaster University, achieving an accuracy of **93%**.
- Worked closely with domain experts to integrate chemistry-specific insights in model development and validation.
- Effectively communicated complex technical concepts to interdisciplinary team members. Made **powerpoint** presentations to present findings at the 2024 NeurIPS conference, and also **published** them(click here).

Web Development Intern — June 2023 – August 2023
Seven-Up Bottling Company — *Lagos, NG*
- Developed a low-fidelity prototype using **ReactJS** to create a secure login system for customers to report spoiled, damaged, or incorrectly delivered products in a **CI/CD pipeline**.
- Leveraged the **Swagger API** platform for seamless API development and integration while demonstrating technical proficiency and problem-solving skills in web development, increasing customer satisfaction ratings by **15%**.
- Conducted **user research** to pinpoint pain points in the user interface experience, leading to a **30%** increase in user satisfaction by implementing targeted improvements.

Founder and President — July 2020 – June 2022
Interact club of Eko Atlantic — *Lagos, NG*
- **Founded** a non-profit organization and **led a team** of 16 people. Secured sponsorships from 4+ organizations and organized multiple fundraisers to raise **₦250,000** to support local orphanages and various Rotary agendas.
- Led a green initiative campaign, **coordinating** with volunteers to plant **300+** trees across local parks, schools, and neighborhoods, promoting environmental sustainability.

PROJECTS

Spectro | *Python, TensorFlow, PyTorch, Hugging Face Transformers, Linux*
- Fine-tuned a **CNN**-based vision model for functional group prediction from images, achieving an f1 score of **91%**.
- Designed and tuned an **RNN** with an **LSTM decoder**, achieving 93% accuracy in molecule prediction.
- Utilized **LLaMA 3** and **GPT-2** to generate embeddings from NMR text data, enabling multimodal integration.
- Implemented a complete ML pipeline in **TensorFlow**, incorporating data augmentation, oversampling, cross-validation, custom learning rate scheduling, and distributed training.

Lung Cancer Detector | *Python, Pandas, NumPy, Sciki-Learn, Joblib*
- Implemented a Random Forest Classifier using **Scikit-learn** to predict lung cancer, achieving 98.5% accuracy.
- Leveraged **MS Excel** for **data visualization**. Preprocessed a dataset of **309** entries using **Pandas**, and **NumPy** by converting categorical variables and effectively managing feature-target separation, which enhanced model training efficiency by reducing processing time by 40%.
- Deployed a predictive pipeline by saving the trained model using **Joblib** for real-time diagnosis and future use.

TECHNICAL SKILLS

Languages: Java, Python, SQL, JavaScript, R, Haskell, Bash, ELM
Frameworks and Dev Tools: ReactJS, JUnit, TensorFlow, MS Office, Git, PowerBI, DBeaver(IBM DB2)
Libraries: PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib, Hugging Face Transformers, Joblib, Tailwind CSS