

# Sharjeel Mustafa

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## TECHNICAL SKILLS

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**Languages:** Python, SQL, Java, C/C++, JavaScript, HTML/CSS

**Technologies:** Pandas, NumPy, PyTorch, Git, Flask, Neo4j, Matplotlib/Seaborn, Bootstrap, Spacy

## EDUCATION

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**B.Sc. Honours Computer Science, Software Engineering Specialization** Sep 2020 – Aug 2024  
*University of Windsor* Windsor, ON

**Relevant Coursework:** Databases, Software Engineering, Operating Systems, Data Structure/Algorithms, Statistics  
**Major GPA:** 92%

## EXPERIENCE

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**Research Assistant** Jan 2024 – Present  
*University of Windsor* Windsor, ON

- Used Python and **Pandas** to perform **data analysis** on over 100 financial texts and presenting findings
- Designed a text extraction pipeline to extract target sections from **30,000 documents**, achieving **90% accuracy**

**R&D Data Scientist Coop** May 2023 – Dec 2023  
*Swift Medical* Toronto, ON

- Wrangled and analyzed **over 180 million** rows of **time-series data** using **SQL, Python, Pandas, and Matplotlib**, contributing to a research paper (to be published)
- Contributed to a **multimillion-dollar initiative** by creating a pipeline for multiple Relation Extraction methods, such as fine-tuning LLMs on 12,000 clinical texts, **improving performance by 96%**
- Validated models and extracted insights** by creating **ROC curves** and analyzing trends in computed metrics like AUC, F1, and balanced accuracy scores, **resulting in another research paper** (to be published) [1]
- Handled end-to-end projects** and presented findings to a cross-functional team to aid with **data-driven decision-making** and prototyping of product features

**Research Assistant** Sep 2022 – Apr 2023  
*University of Windsor* Windsor, ON

- Researched machine learning for **Time-Series Forecasting** and implemented an **LSTM** model
- Utilized Git, Python, and NumPy to implement supporting features such as dataset generation

**Teaching Assistant** Jan 2023 – Apr 2023  
*University of Windsor* Windsor, ON

- Supported the **Software Development** course by teaching and grading a section of 20 students
- Taught concepts related to GUI, event-driven and concurrent programming using Java

**Software Developer Coop** May 2023 – Aug 2023  
*Connecting with Technology* Windsor, ON

- Designed a **Neo4j** graph-data model, streamlining retrieval compared to the previous relational model
- Developed an asynchronous **CRUD backend** with **JavaScript, Fastify, and GraphQL** following MVC architecture to operate efficiently on highly connected graph data
- Collaborated with a cross-functional team to define software requirements and lead technical discussions

**Research Assistant** Sep 2021 – Apr 2022  
*University of Windsor* Windsor, ON

- Developed a program to assist professors in validating and migrating **1000's of articles** to an online database with formatted metadata using OCR and NLP
- Implemented a **layer architecture** and **multiprocessing** for efficient extraction and developed a web interface using **Flask and Bootstrap** for easy access to the tool
- Automated a manual process, **improving input time by 94%** and saving professors dozens of hours