

Sourish Das

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EDUCATION

University of Waterloo

Waterloo, ON

Honours Bachelor of Computer Science (Co-op)


Expected Graduation Date: December 2025

- **Relevant Coursework:** OOP · Data Structures and Algorithms · Linux · Functional Programming · Compilers

EXPERIENCE

Software Engineering Intern

May 2023 - Sept 2023

Baraka (YCombinator '21) 

Dubai, UAE

- Increased total search requests by **17%** by implementing a semantic search feature using **OpenAI API** and **Milvus DB**
- Reduced search latency by up to **60%** for both lexical and semantic searches, leveraging **Meilisearch** and **NNS**
- Built a **RESTful API** to boost investments in dividend-paying stocks by **21.5%** using **TypeScript**, **NestJS** and **SQL**
- Saved **10k** dollars/month by developing an ETL pipeline to introduce new financial metrics using **Python** and **SQL**
- Implemented a microservice that detects fraudulent trades amongst **25k+** accounts, using **Java**, **Springboot** and **EC2**
- Utilized parallelization and caching in **TypeScript** to achieve an enhancement of **+35%** in API request response times
- Optimized data storage and retrieval mechanisms by integrating **AWS S3** services, reducing data fetch time by **30%**

Quantitative Developer

May 2023 - Present

WatStreet

Waterloo, ON

- Developed an algorithm that identifies and records **Triangular Arbitrage** opportunities across both centralized and decentralized cryptocurrency exchanges utilizing **Jupyter Notebook**, **Python** and **Poloniex API**
- Researched **Cross-Exchange Arbitrage** opportunities between **Binance** & **Poloniex** to find **25+** profitable pairs of coins
- Developed an **SMA Crossover Strategy** with an **89%** buy/sell signal accuracy using **Python**, **Pandas** and **Matplotlib**

Full-Stack Developer

Sept 2022 - May 2023

University of Waterloo Satellite Design Team 

Waterloo, ON

- Optimized satellite request handling by **20%**, by creating a **MySQL** database managing **500+** records of telemetry data
- Created an ARO Request page with **React** & **Firebase** to reduce server-side incoming & outgoing response times by **40%**
- Refactored the satellite's user authentication and data retrieval, to reduce latency by **35%** and handle **500+** requests/hr

PROJECTS

Bull Forecast | *Python, Streamlit, Yahoo Finance, Prophet, Pandas, Matplotlib*

- Developed a web app that previews up to 2 year price forecasts on **+2500** stock and crypto holdings using **Streamlit**
- Analyzed the relative return of different entities over a given time period using **Python**, **Pandas** and **Matplotlib**
- Uses **Monte Carlo** simulation to predict future lower-bound, upper-bound and mean prices for individual equities with an **81%** accuracy, allowing users to analyze price trends up to 2 years in the future using **Python**, **Pandas** & **Matplotlib**

RepMe | *Python, OpenCV, Mediapipe, Flask, MongoDB, ReactJS, TailwindCSS*

- Implemented image processing to accurately track reps of **5+** exercises in video streams using **OpenCV** and **MediaPipe**
- Achieved a rep counting accuracy of over **90%**, by optimizing **Python** scripts through extensive testing and fine-tuning
- Designed a user friendly front-end using **React** and **Tailwind CSS** allowing users to track historical workout patterns

Stock Correlation Calculator | *Python, Pandas, FastAPI, Matplotlib, Numpy, Chakra-UI, React*

- Created a web app using **React** and **Chakra-UI**, that previews statistics and charts regarding a stock's correlation
- Created a **RESTful API** to calculate Kendall Correlation between stocks using **FastAPI**, **Python** and **Pandas**
- Analyzed the highest correlated pairs of stocks in the S&P 500 using **Python**, **Matplotlib** and **Pandas**

INV\$T | *Python, Pandas, Jupyter Notebook, Yahoo Finance, Sklearn, Smtplib, Ssl*

- Developed a script used for **50+** trades that sends users an email notification if a specific stock in your created portfolio reaches a certain target price, or a likely possibility of providing a target return, using **Python**, **Pandas** and **Smtplib**
- Users are able to preview their portfolio and witness real-time price changes using **Yahoo Finance**, and **Python**

SKILLS

Languages: Python, Java, TypeScript, JavaScript, C++, C, SQL, Bash, R, HTML/CSS

Databases: PostgreSQL, MySQL, MongoDB, Firebase

Frameworks: AWS, NestJS, Express, Flask, Springboot, FastAPI, ReactJS, NextJS, Node.js, Tailwind

Libraries: Pandas, Matplotlib, Tensorflow, Scikit, OpenCV, Mediapipe, PyTorch, Numpy, Yfinance