Shyam Patel

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Experience

Cardinal Capital Management (acquired by IMC)

Nov 2022 - July 2023

Software Developer

- Collaborated with traders to build and design features for the prop shop's systems to improve both fundamental and high frequency strategies. Features/improvements would have to be capable of handling trades for strategies that can span nanoseconds or days
- Built out daily reporting with interactive dashboards for high frequency trading analysis by running through every market event that occurred on the CBOE or CME against the algos' **minimum 175,000 attempted trades per day** for the respective options and futures
- Improved performance for accepting and persisting all floor trades by implementing **multithreading with immutable message passing**
- Primarily worked with **Java**, **Python**, **Pandas**, **Numpy**, **Plotly** and **C++**

BNY Mellon

Aug 2021 - Oct 2022

Software Engineer - Infrastructure

- Worked on the Kafka Dev team which owned the bank's internal **Apache Kafka infrastructure as a service platform**
- Built and maintained new features while aiding in a highly reliable platform to help deploy applications handling millions of dollars
- Worked with **Apache Kafka**, **Java**, Ansible, Junit, Cucumber/Gherkin, Bash Scripting as well as other frameworks and technologies

Rutgers University

May 2020 - May 2021 (TA)
Sept. 2019 - May 2021 (I-Lab)

Teaching Assistant and I-lab Assistant

- As TA: taught grad students the fundamentals of data science in **Python** and how to use libraries like **Matplotlib**, **Pandas** and **Numpy**
- As I-Lab assistant: taught and aided students in a myriad of topics. Some include: **Algorithms**, **Operating Systems**, **Artificial Intelligence**

LEFTE Lab

Jul. 2020 - Sept. 2020

Research Assistant

- Designed, implemented and optimized both concurrent and asynchronous color image processing for CV driven drone navigation at 30 fps (the maximum frame rate of the camera on drone) using **Python**, and OpenCV

Bromberg Lab

Apr. 2019 - Oct. 2019

Research Assistant

- Developed Openstack managers for infrastructure in **local and cloud compute clusters**, implemented data cleaning scripts that help to process genomic data containing +100,000 nucleotides per sequence and managed MySQL databases for genomic and proteomic data using **Python**, **Docker**, **MySQL**, and **Openstack**

Skills

Languages	Java, Python, C, C++
Frameworks/Libraries	Numpy, Pandas, Plotly, MySQL
Technologies	Git, Docker, Linux (CentOS, Ubuntu)

Education

Rutgers University

Sept. 2017 - May. 2021

B.S. in Computer Science — *New Brunswick, NJ*

- Relevant Coursework: **Operating Systems**, **Algorithms**, **Internet Technology**, **Graph Theory**, **Differential Equations**, Brain Inspired Computing (Graduate), Deep Learning, Introduction to Artificial Intelligence (Graduate), Systems Programming, Discrete Mathematics and Probability

Projects

BERT-CNN-Toxic-Speech-Classifier

Dec. 2020

repo: Shyamp99/BERT-CNN-Toxic-Speech-Classifier — *Group*

- Employed Google's **Bidirectional Encoder Transformation for Transformers (BERT)** architecture with a **Convolutional Neural Network** to classify online comments across 6 toxic labels: Toxic, Severe Toxic, Obscene, Threat, Insult and Identity Hate
- The model was trained using a **159,571 datapoint dataset** and achieved an **average 96.8% ROC-AUC for all labels (all labels were >93.9%)**
- Built using: **Python**, **Pytorch (with Cuda)**, **Plotly**, **Numpy**, **Pandas**, **Scikit-Learn** and Hugging Face

Rust Ping

Sept. 2020

repo: Shyamp99/Ping-in-Rust — *Solo*

- A ping client that takes an IPv4/IPv6 address or URL and sends an ICMP echo request to the respective location with the **Rust standard library**

User Level Memory Management Simulator

Apr. 2020

Repo: Shyamp99/Virtual-Memory — *Partner*

- Designed and implemented user level memory management with a Translation Lookaside Buffer using **C Standard Library**
- Handles address translation from virtual to physical addresses, fragmentation in both virtual and physical memory and malloc/free operations