ROSHAN MUNJAL

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EXPERIENCE

Software Developer

Vision Critical

Jan. 2019 – Apr. 2019 | Vancouver, BC

- Implemented a **TypeScript** micro-service to export member data with the team lead.
  - **Dockerized**, hosted on ECR and invoked through an **AWS** State Machine.
  - Used **Node** to stream data from **SQL** or **Postgres** to S3 buckets.
  - Capped memory usage at 50 MB processing up to 10 million records.
  - Discussed needs with Engineering & Product Managers and transformed data into multiple JSON and CSV formats.
- Worked with the team on key ETLs from **SQL** to an optimized **Postgres** store.
  - Switched to a schema per tenant database design for faster data access.
  - Reduced export times by up to 70% on large clients.
- Implemented features such as refreshing member filter counts in **C#** and new web pages for customer engagement metrics in **React**.

Software Engineer

Kooltra

May. 2018 – Aug. 2018 | Toronto, ON

- Worked on a Forex platform hosted on **AWS** with 1,000+ daily trades.
- Designed REST endpoints in **Java** to receive Forex quotes and execute trades based on price triggers through Oanda's platform.
- Developed automated trade confirmation emails in **Java** and implemented a suite of unit tests.
- Wrote **Python** scripts to deploy data to Salesforce orgs and run **CircleCI** tests.

Controls Member

UW Sailbot

Oct. 2017 – Dec. 2017 | Waterloo, ON

- Tested deep learning frameworks compatible with **ROS** and the Jetson hardware for the autonomous sailboat.
- Built and iterated on a CNN classifier to detect an orange buoy in **Keras**.

Strategy Lead, Programmer

FIRST Robotics

Oct. 2016 – May. 2017 | Mississauga, ON

- Led a team of 5 people to collect metrics on teams using the FRC Krawler app. Performed statistical analysis in Excel.
- Implemented robot controls in the FRC WPI library in **Java** and learned about sensor communications to the RoboRIO.
- Briefly worked on a PID controller for robot stability and autonomous driving.

TECHNOLOGIES

Python, JavaScript, Java, SQL, Unix
C++, Scheme, Node, Docker, AWS
TensorFlow, Scikit-Learn, Postgres

PROJECTS

Chess Game & Engine

- Designed the board, pieces, moves in **Java** with **Guava** data structures.
- Implemented a **Swing** GUI that facilitates player and AI games.
- Constructed a chess engine using Minimax.

Destin

Global AI Hackathon, 2nd Place

- Developed a chat-bot that responds to queries about different locations by analyzing Google searches, in a team of 6.
- Leveraged Microsoft's **LUIS API** to understand searches and integrated components in **Node**.

Financial Outlier Detection

Yale Hackathon

- Predicted if bank loans would be approved given a company's financial data.
- Parsed JPMorgan dataset and implemented regression and Gaussian distributions in **Scikit-Learn** to identify outliers.
- Retrieved files with **Flask** and displayed results with **matplotlib**.

HONORS & AWARDS

- **Bloomberg Code B AI Challenge.** Finished 3rd place and earned the design prize for an interactive Terminal display.
- **Mathematics Awards.** Achieved top 5% in the Fermat, Hypatia & Cayley Waterloo Math Contests.

EDUCATION

Bachelor of Computer Science

University of Waterloo

Sep. 2017 – May. 2022

- Deep Learning Specialization (Coursera), Data Structures and Algorithms, Object-Oriented Programming.
- DEEP Academy **leader** at the University of Toronto. **Chess** enthusiast. Active **hiker**.