# ROSHAN MUNJAL

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## EXPERIENCE

### Software Developer
**Vision Critical**

📅 Jan. 2019 – Apr. 2019          ⚲ Vancouver, BC

- Authored a **TypeScript** micro-service to export member data with team lead. **Dockerized** and invoked through an **AWS State Machine**.
- Streamed data using **Node** from **SQL** or an optimized **Postgres** store to **S3** buckets. Capped memory usage at 50 MB processing > 10 million records.
- Discussed needs with Engineering & Product Managers and transformed data into multiple JSON and CSV formats for analytics and exports.
- Worked with the team on key ETLs moving from **SQL** to **Postgres**. Switched to a schema per tenant database design for faster data retrieval.
- Developed APIs in **C#** to re-evaluate member group filters and persist new counts. Prepared feature demo for all teams.

### Software Engineer
**Kooltra**

📅 May. 2018 – Aug. 2018          ⚲ Toronto, ON

- Developed features for a foreign exchange back-office platform built using **force.com** and **AWS** with 10,000+ daily trades.
- Designed endpoints in **Java** and **Apex** to receive foreign exchange quotes and execute and log trades through Oanda's trading platform.
- Wrote **Python** scripts to deploy data to Salesforce environments and execute **CircleCI** tests.
- Architected trade confirmation emails in **Java** and implemented a suite of unit tests using **mockito**.

### Controls Member
**UW Sailbot**

📅 Oct. 2017 – Dec. 2017          ⚲ Waterloo, ON

- Tested deep learning frameworks to use with compatibility in **ROS** and the on-board Jetson hardware for the autonomous sailboat.
- Built and iterated on a CNN classifier to detect an orange buoy in **Keras**. Tested transfer learning on the Inception model in **TensorFlow**.

### 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 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, 2nd Place
Global AI Hackathon
- 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**.