

# Roshan Munjal

COMPUTER SCIENCE · UNIVERSITY OF WATERLOO

✉ r2munjal@uwaterloo.ca 🏠 rmunjal.me 📺 roshan2M 📺 roshan2M

## Skills

### LANGUAGES TOOLS

*Proficient:* Java, Python | *Competent:* JavaScript, HTML5/CSS3, Racket | *Familiar:* C, MATLAB/Octave, SQL

*Libs:* NodeJS, libGDX, Keras, SciPy, Pandas | *Tools:* Git, GitHub, Linux, Eclipse | *Frameworks:* Bootstrap, LUIS, Unity

## Projects

### FINANCIAL OUTLIER DETECTION 🔗

New Haven, CT

YHACK (YALE HACKATHON)

Dec. 2017

- Parsed financial data from the CSV files in the JPMorgan Chase dataset and stored input in DataFrames using Pandas in Python.
- Implemented linear regression and Gaussian distributions in SciPy using key features in the data to identify outliers.
- Built a front-end using HTML5/CSS3 and used Flask to retrieve CSV files from the user. Presented project to 5 judges.

### CHESSE GAME & ENGINE 🔗

Mississauga, ON

PERSONAL

Aug. 2017 - Present

- Using object-oriented principles in Java including classes for the board and GUI, and abstraction for pieces, moves and other features.
- Currently implementing a chess engine that analyzes previous games and searches for moves using Alpha-Beta pruning.

### DESTIN 🔗

Toronto, ON

GLOBAL AI HACKATHON

Jul. 2017

- Developed a chat-bot that responds to queries about different locations around the world in a team of 6.
- Utilized Microsoft's LUIS (language processing) API and integrated components in JavaScript using NodeJS.
- Earned 2<sup>nd</sup> place at the hackathon in Toronto and presented chat-bot project idea to ~40 people using the Microsoft Bot Emulator.

## Activities

### WATERLOO SAILBOT 🔗

Waterloo, ON

CONTROLS TEAM MEMBER

Oct. 2017 - Present

- Tested deep learning frameworks to use with compatibility in ROS and the on-board Jetson hardware for the autonomous sailboat. Presented on benefits and drawbacks of the frameworks to a team of 10.
- Currently building a classifier to detect an orange buoy in water using transfer learning on the Inception model in Python.

### FIRST ROBOTICS

Mississauga, ON

STRATEGY LEAD

Oct. 2016 - May. 2017

- Led a team of 5 to effectively collect data on other teams using scouting sheets and the FRC Krawler app. Made strategy decisions based on data analysis in Excel.
- Learned fundamentals of programming the robot in the FRC WPI library in Java and how sensors relay data to and from the RoboRIO.
- Attained 7 awards in Regional and Provincial events and qualified for the *FIRST* World Championship in Rookie year.

### UNIVERSITY OF TORONTO

Toronto, ON

Jr. DEEP CAMP COUNSELLOR

Jul. 2015 - May. 2015

- Assisted instructors of the Junior DEEP program and inspired elementary school students about scientific discovery and innovation.
- Supervised children and taught lessons on space exploration. Helped students learn via daily activities.

### CHESSE TEAM & CLUB

Mississauga, ON

PRESIDENT

Sep. 2013 - May. 2017

- Led high school chess club & team and helped improve players' skills through weekly games and exercises.
- Attained 1<sup>st</sup> place at the PEEL Team Tournament 2013 and 3<sup>rd</sup> place at the PEEL Individual Tournament 2016.

## Honours

2017	<b>Len Richardson Award</b> , Awarded to the graduating student in Stephen Lewis S.S. displaying the most passion for science & innovation.	Mississauga, ON
2017	<b>FIRST Rookie Inspiration Award</b> , Celebrates a rookie team's outstanding success in advancing appreciation for engineering, both in their school and in their communities.	Toronto, ON
2017	<b>Faculty of Math Scholarship</b> , Awarded 10K to exemplary students entering the Faculty of Math.	Waterloo, ON
2015 - 2017	<b>Mathematics Contests</b> , Achieved top 5% in the Fermat, Hypatia & Cayley Waterloo Math Contests.	Waterloo, ON

## Education

### University of Waterloo

Waterloo, ON

CANDIDATE | BACHELOR OF COMPUTER SCIENCE (CO-OP) | CLASS OF 2022

Sep. 2017 - Present

- Taking additional courses (6/term) and planning to pursue the Joint Statistics Major. (Current GPA: 3.94)
- *Online coursework:* Machine Learning (Stanford/Coursera) and Introduction to Computer Science using Python (MITx/edX).