Roshan. **Munjal**

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Languages & Frameworks

Languages: Java, Python, HTML5, CSS3, JavaScript, Racket
Tools: Bootstrap, NodeJS, LibGDX, LUIS, Keras, NumPy, Scikit-Learn, Pandas, LaTeX, Git, ROS

Activities

Waterloo Sailbot

Controls Team Member — *Sep. 2017 - Present*

- Tested deep learning frameworks to use with compatibility in ROS and the on-board Jetson hardware. Presented on benefits and drawbacks of the framework to team of approx. 15 people.
- Built a classifier to detect an orange buoy in an image with > 95% accuracy using Keras in Python.

FIRST Robotics

Strategy Lead — *Oct. 2016 - Apr. 2017*

- As a strategy lead, led a team of 5 to collect and analyze data on other teams. Made strategic decisions based on analysis in Excel and created a systematic way to collect information.
- Familiar with fundamentals of programming the robot in WPILib in Java.
- Attained 7 awards in Regional and Provincial events and qualified for the *FIRST* World Championship in Rookie year.

Chess Team & Club

President — *Sep. 2013 - May. 2017*

- Led high school chess club and team. Helped improve players' skills through weekly games and chess exercises.
- Participated in several tournaments in the PEEL region and won 1st place in the PEEL Team Chess Tournament 2013.

Projects

Chess Game & Engine

Aug. 2017 - Present

- Currently implementing a chess game & engine in Java. Analyzes previous games using the Minimax algorithm.
- Uses object-oriented functionality including classes for the board, engine and GUI, and abstraction for pieces and other features.

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.
- Presented chat-bot project idea using the Microsoft Bot Framework Emulator to approx. 40 people and earned 2nd place in the Global AI Hackathon in Toronto.

Dungeon Crawler Game

May. 2017 - Jun. 2017

- Developed a simplified version of the indie game "Enter the Gungeon" using libGDX in Java. Used the physics engine to implement collisions between the player and obstacles.
- Uses classes and inheritance to implement the player, enemies and objects such as coins.

Honours & Awards

2017 **Len Richardson Award**, Awarded to one student displaying great passion for science & innovation — *Stephen Lewis SS*

2015 - 2017 **Mathematics Contests**, Achieved top 5% in Fermat, Cayley, Hypatia Waterloo Math Contests — *University of Waterloo*

Education

University of Waterloo

Waterloo, ON

Bachelor of Computer Science (Co-op) — *2017 - Present*

- Taking additional courses and planning to pursue the **Joint Statistics Major**. *(First Term Average 89% ≈ GPA 3.94.)*
- Completed several MOOCs including **Stanford's Machine Learning** on Coursera and **MIT's Introduction to CS using Python** on edX.