Pranavan **Pirahalathan**

1B Honours Computer Science | (647) 640 – 1964 | ppirahal@uwaterloo.ca | pranavan01 | pranavanp

Skills

Languages Python • C • Java • Racket • JavaScript • VBA • Arduino C
Frameworks PyQt5 • Pandas • SciKit • NumPy
Databases MongoDB • AWS • SQLite
Technologies HTML5 • CSS3 • Git • MS Office • Raspberry Pi 3 • Linux/UNIX • Arduino • Unix Terminal

Projects

Quick Pass

Password Manager | *Python, OpenCV, PyQt5, NumPy, Cryptography &, Facial Recognition APIs, File/IO*

- Created a password managing program to keep track of usernames and passwords for websites using Python
- Implemented a **symmetrical encryption** algorithm using **Cryptography APIs** to safely store user data in a byte file
- Incorporated **optical facial recognition** by using **OpenCV** to enable users to biometrically protect their data

Space Invaders

Game | *Python, Pygame, MongoDB, Pandas, PyQt5, File I/O, OOP*

- Designed a space invaders game with animations and **a functional GUI** using **Pygame** and **PyQt5**
- Implemented a **real-time database** system using **MongoDB** & **Pandas** to create cloud-based leaderboard

Stock Advisor

Stock Prediction Program | *Python, SciKit, Matplotlib, NumPy, Quandl, Machine Learning*

- Built a digital stockbroker that advises users if they should invest in a specific stock using Python
- **Trained a linear regression model** using stock prices data as test data to forecast stock prices using **SciKit-learn**
- Created forecasted stock price **visualizations** using **Matplotlib**

TweetBot

Twitter Bot | *Python, Web Scraping, AWS EC2, Tweepy API, PyQt5*

- Created a Python bot to automatically retweet to tweets sent at a user with a specific hashtag using **Tweepy API**
- Ran the script for 24 hours continuously in the cloud using **AWS EC2**

Fastest Sprint Robot

Winner at CETA Robotics Competition | *ArduinoC, Arduino*

- Designed and created an **autonomous** robot to achieve the **quickest** time in a race
- Successfully implemented a **PID algorithm** on an Arduino Microcontroller using ArduinoC to **increase travel speed by 150%**

Experience/Extracurricular

Nallpro Education Center (Math & Computer Science Tutor) ***Dec. 2017 – June. 2019***

- Provided coaching to high school students to help strengthen their skills in mathematics and computer science
- Anticipated my student's learning style and catered my teaching style to help them meet their goals

Co-founder & President of Computer Science Club ***Sept. 2018 – May. 2019***

- Promoted an interactive learning environment and taught students how to program using Python
- Co-ordinated and organized large-scale Python graphics projects on **Raspberry Pi 3** running **Ubuntu**
- Hosted the **largest** Computer Science club ever at our school with **70+ active members** with positive feedback

Education

University of Waterloo ***Sept. 2019 – Apr. 2024***

- Candidate for Bachelor of Computer Science, University of Waterloo

Courses: Designing Functional Programs • Elementary Algorithm Design and Data Abstraction • Introduction to Microeconomics

Achievements

Governor General's Academic Medal – Governor General of Canada ***Jun 2019***

- Received a medal for graduating with the **highest academic average (97.5%)** in my high school (~**500** students)

Breakthrough Manifesto Award – Deloitte Canada ***Apr 2019***

- Awarded at Deloitte's Design by Disruption Hackathon for having the most **innovational** pitch and placing **2nd**

President's Scholarship of Distinction – University of Waterloo **Sept 2019**