Charles Reed

reed226@my.yorku.ca
(647)-639-8141 | Thornhill, Ontario
Github link | LinkedIn link

EDUCATION

York University   Toronto, ON
Candidate for BA (Hons) in Computer Science   *3rd Year in Progress*

TECHNICAL SKILLS

- **Programming Languages**: Python, Java, Java for Android, C/C++, C#, SQL, BASH
- **Libraries and Frameworks**: Numpy, OpenCV, Beautiful Soup, win32
- **Tools and Applicable Theories**: Visual Studio Code, Android Studio, Github, Computer vision, Unity Game Development, Automation, Mobile development, Image processing, Data analysis, git.

PERSONAL PROJECTS

- **Video Game Automator** *2021*

  Automation OCR software tasked with recognizing specific elements on a computer screen and providing pre-programmed responses automatically.
    - Used an iterative algorithm to gather pixel RGB values due to it being more efficient than a recursive approach
    - Implemented OpenCV for pixel data Analysis and Numpy to create a mask for detection of certain colors on the screen guided by the upper and lower bounds.
    - Program was designed to read and parse a csv file containing checkpoints of location coordinates.
    - Used Object-Oriented Design theory to integrate key topics such as Inheritance, Polymorphism, and Data Abstraction.
    - Pre-programmed responses to control the user's keyboard and mouse based on pixel data taken from the OCR and other logical parameters.
    - Implemented Advanced Vector Theory to correctly calculate the velocity and acceleration of certain objects captured through OpenCV.

  Development Environment: Python3 (Libraries: NumPy, Python Imaging Library, OpenCV, more_itertools, win32gui, time), git, github, Visual Studio Code, Windows

- **Covid-19 Vaccine Vaccine Response Tracker** *2020*

  Website Scraper tasked with monitoring the York Region Vaccine distribution availability site, and sending alerts to a discord group chat when certain parameters are met.
    - Used GET requests to access and search through HTML elements
    - Implemented an algorithm to efficiently sort through information on the site to get key values.
    - Added an event listening functionality to wait for the scraper responses and relay information in Discord accordingly.
    - Manipulated text data to provide a more user-friendly and readable response so that non-technical users would be able to understand and utilize the information.

  Development Environment: Python3 (Libraries: beautifulsoup4, urllib, time), discord, git, github, Visual Studio Code, Windows

- **Mass Tracker Android Application** *2023*

  Android application tasked with collecting and analyzing data from a Bluetooth GS1 barcode scanner, displaying a running total of the number of packages scanned and their weight in kilograms
    - Implements an algorithm that converts decimal numbers into a neatly formatted, centered string with padded whitespaces, while removing any redundant ".0" decimals and trailing zeros.
    - The layout features a simple and elegant interface that prioritizes usability.
    - This implementation utilizes complex event listeners and timers to monitor and process barcode outputs from the scanner in a precise and efficient manner.

  Development Environment: Java, git, github, Android studio, Android Phone Emulators, Windows

EXPERIENCE

AutoBoys Garage   Concord, ON
Assistant automotive service technician   *Summer of 2020*
- General maintenance: Oil, filters (intake/cabin), pads/rotors, changing/mounting/balancing wheels
- Diagnostic, repair, and safety inspections

Pharmasave Neighbourhood   Richmond Hill, ON
Delivery Driver   *May of 2023 - Present*
- Coordinate and optimize delivery routes for timely distributed medications to individuals, group homes, assisted living homes, retirement homes, pharmacies, doctor's offices, and hospitals

Freelance Labourer   Thornhill, ON
- Lawn care, snow shovelling, power washing, basic car servicing, furniture installation, event setup   *2016-Present*