Paolo Torres

Mechatronics Engineering, University of Waterloo

paolo-torres.github.io
github.com/paolo-torres
linkedin.com/in/paolo-torres
ptorres@uwaterloo.ca
(647) 863-7995

Skills

Languages/Tech: C/C++, Python, Arduino, JavaScript/Node.js/JSON, HTML/CSS/Bootstrap
Libraries/APIs: OpenCV, scikit-learn, jQuery, RESTful APIs, Twitter API, Riot Games API
Methodologies/Paradigms: Scrum/Agile, Test-Driven, Asynchronous I/O, Modular, OOP
Tools: Linux (Ubuntu), Terminal, Git, Visual Studio, Eclipse, Postman, SolidWorks, AutoCAD

Experience

Software Developer - Solink Jan 2017 - Apr 2017

- Developed central **data source connector** in Node.js for 10,000+ POS device transactions everyday
- Wrote **software tools** and **automation scripts** through **Scrum/Agile** practices saving hours of work
- Prototyped and pitched computer vision implementation to initiate early development of new features

Embedded Developer - Waterloo Aerial Robotics Group Sep 2016 - Dec 2016

- Designed a **debugging system** in **C** for the **GPS** to prevent coordinates from incorrectly locking values
- Utilized integer-based commands to **control decision-making** for the aircraft's probe drop mechanism
- Employed pulse width modulation code on mounted camera to manage payload imaging for competition

Programming Instructor - Addity Jul 2016 - Aug 2016

- Implemented Lego Mindstorms activities and taught 33 students about the **fundamentals of robotics**
- Configured Gradle automation system with Windows batch files to build and host project workspaces
- Led the WordPress course for 27 students and integrated HTML and CSS to deepen the program

Computer Technician - Y2K Computers Jul 2015 - Aug 2015

- Prioritized client specifications and built custom-made desktops to **boost company revenue by 80%**
- Utilized BIOS firmware for OS updating and component testing to improve overall performance
- Applied troubleshooting to effectively repair system errors, intrusive software, and hard drive failures

Projects

Autonomous Graphing Calculator - (C++, C)

- Optimized a **three-axis system** by lowering plotting time of user-defined functions to under 45 seconds
- Programmed immediate reset feature allowing multiple iterations to **minimize human dependency**

Sign Language Translator - CUHacking (Python)

- Built a sign language recognition system via **Leap Motion** technology with incorporated video chat
- Won Indico's Challenge for **best use of machine learning** through SVMs and the scikit-learn library

Vehicle Tracker - (C++, OpenCV)

- Created an application enabling users to upload traffic video and have the data analyzed at **96% accuracy**
- Employed **computer vision** and **image processing** techniques to separate static from dynamic instances

Pathfinding Simulator - (C++)

- Implemented A* search algorithm to simulate closest path **robotic navigation** with obstacle avoidance
- Allowed users to create the environment and visualize movement and **heuristics** via binary representation

League Bot - (Python, Twitter API)

- Developed an **automated Twitterbot** with parsed tweeting via HTTP requests and selective retweeting
- Integrated with Riot Games API to provide followers with daily statistics of the game's best players

Keypad Door Lock - (C++, Arduino)

- Designed a password-based electromagnetic device for access control and security management
- Implemented **switch debouncing** software to eliminate multiple key presses and increase reliability