# PAOLO TORRES

4A Mechatronics Engineering, University of Waterloo

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## 🔧 SKILLS

**Languages/Tech:** Java, JavaScript, HTML/CSS, npm, Node.js, C/C++, C#, XAML, .NET, JSON, Python
**Libraries/Frameworks:** Spring, Angular, C++ STL, libc++, Clang, LLVM, WPF, jQuery, OpenCV, scikit-learn
**Tools:** Git, IntelliJ, Terminal, AWS, Visual Studio, Linux, Jira, ROS, CMake, Command Prompt, Azure DevOps

## 💼 EXPERIENCE

**Amazon** | Software Development Engineer Intern                     Vancouver, BC | May - Aug 2020

- Developed software tools for Amazon Freight to track shipper invoices **worth up to millions** of dollars
- Incorporated sorting, pagination, and filtering of data, deployed to production for **thousands of users**
- Implemented **Spring caching** to improve page load times from 30s to <1s for all subsequent loads
- Worked with Java and Spring Framework in the backend to TypeScript and Angular in the frontend

**Clearpath Robotics** | Software Developer Intern                     Waterloo, ON | Sep - Dec 2019

- Implemented **firmware** with DMX512 and sACN compatibility for control of embedded lighting system
- Interfaced with an **STM32F407**, creating device drivers to support UDP transport and SPI conversion
- Developed and tested features for autonomous ground vehicles in C++, utilizing ROS and CMake

**Microsoft** | Software Engineering Intern                     Redmond, WA | Jan - Apr 2019

- Developed **C++20** library conformance features based on the C++ STL that ships with Visual Studio
- Libraries: algorithms, numeric, cmath, containers, type traits, strings, functional, memory, and new
- Optimized function's move constructor to **reduce object file size** by 30% for x86 and 45% for x64

**Microsoft** | Explore Intern                     Redmond, WA | May - Aug 2018

- Developed Visual Studio IDE and IntelliSense features in C++ and C#, shipped to over **5 million users**
- Added **telemetry analytics** and full test coverage to track success metrics and increase robustness
- Utilized Git and Azure DevOps to track work, participated in sprint meetings, and carried out demos

**FLIR Systems** | Robotics Engineering Intern                     Waterloo, ON | Sep - Dec 2017

- Generated fixes on **sensors** and MCUs to improve temperature reading and flight performance in C
- Squashed **50+ bugs** in Jira and verified feature requests related to controls, computer vision, and UI
- Tested and validated memory management issues, firmware, connectivity, calibration, and custom APIs

**Solink** | Software Developer/QA Intern                     Ottawa, ON | Jan - Apr 2017

- Implemented central **data source connector** in JavaScript for 10,000+ POS device transactions a day
- Wrote camera-based and data extraction automation scripts via REST **saving hours of work** a week
- Created software tools, patched numerous bugs, and tested the product via Scrum/Agile methodology

## ⑂ PROJECTS

**Vehicle Tracker** | (C++, OpenCV)

- Created an application enabling users to upload traffic video and count passing cars at 92% accuracy
- Employed **computer vision** and image processing techniques to separate static from dynamic instances

**Sign Language Translator** | CUHacking (Python)

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