

# Paolo Torres

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## EDUCATION

### University of Waterloo

*Bachelor of Applied Science, Mechatronics Engineering*

Waterloo, ON

Sep. 2016 – Jun. 2021

## EXPERIENCE

### Amazon

*Software Development Engineer*

Aug. 2021 – Present

Vancouver, BC

### Amazon

*Software Development Engineer Intern*

May 2020 – Aug. 2020

Vancouver, BC

- Developed **software tools** for Amazon Freight to track and monitor the status of shipper invoices
- 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, TypeScript and Angular in the frontend

### Clearpath Robotics

*Software Developer Intern*

Sep. 2019 – Dec. 2019

Waterloo, ON

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

### Microsoft

*Software Engineering Intern*

Jan. 2019 – Apr. 2019

Redmond, WA

- Developed **C++20** library conformance features based on the C++ STL that ships with Visual Studio
- Libraries: algorithm, numeric, cmath, containers, type\_traits, string, 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*

May 2018 – Aug. 2018

Redmond, WA

- Developed Visual Studio IDE and IntelliSense features in C++ and C#, shipped to **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, carried out demos

### FLIR Systems

*Robotics Engineering Intern*

Sep. 2017 – Dec. 2017

Waterloo, ON

- 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*

Jan. 2017 – Apr. 2017

Ottawa, ON

- 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

### Algorithm Design and Analysis | Python, C++

Jan. 2021 – Apr. 2021

- Built programs with Dijkstra's algorithm and dynamic programming to determine **shortest paths**
- Concepts: Divide-and-conquer, recurrences, greedy, searching/backtracking, approx. algorithms

### Cooperative and Adaptive Algorithms | C++, MATLAB

Sep. 2020 – Dec. 2020

- Utilized genetic algorithms to **optimize** mathematical expressions and symbolic regression problems
- Concepts: Game playing, meta-heuristics, evolutionary computing, swarm intelligence, ant-colony

## SKILLS

**Languages/Tech:** Java, JavaScript, HTML/CSS, npm, Node.js, C/C++, C#, XAML, .NET, Python

**Libraries/Frameworks:** Spring Framework, Angular, C++ STL, libc++, Clang, LLVM, WPF, jQuery

**Tools:** Git, IntelliJ, Terminal, AWS, Visual Studio, Linux, Jira, ROS, CMake, cmd, Azure DevOps