

# Alexander Gonczaruk

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## Skills

**Development Languages:** Python, C++, JavaScript, HTML, CSS, SQL

**Tools/Technologies:** Node.js, React, Redux, MongoDB, MySQL, Express, TensorFlow, Flask, Selenium, Pandas, NumPy, Matplotlib, Git, Jira

## Experience

### Automation Developer – Co-op, University of Waterloo

Jan-Apr 2021

- Utilised Python to develop a GUI control board capable of visualizing and realigning drifting laser beams in the Quantum Ion lab to their desired coordinates using Raspberry Pis
- Incorporated ability to track displacement using NumPy to calculate Gaussian fits on beam max intensity
- Integrated threading and sockets to allow for real-time communication between multiple machines while providing capability of controlling laser displacement
- Designed and created 3D printed parts for laser beam motor mounts using Autodesk Inventor

### Robotics Process Automation Assistant – Co-op, Loblaw Companies Limited

Apr-Aug 2020

- Used Microsoft Power Automate Platform to develop and distribute multiple company-wide applications
- Illustrated system design skills by leading application architectures
- Reinforced interpersonal skills through frequently collaborating with clients on new application ideas
- Gained experience in an Agile environment using Scrum methodology

## Projects

### Society Streetwear – (MongoDB, Express, React, Node - MERN)

- Currently creating an eCommerce website for my own business reselling streetwear and sneakers using the MERN stack
- Developed a backend REST API using Express connected to MongoDB to manipulate product information
- Architected and created the frontend with React, using Ajax requests for backend API utilisation
- Currently adding PayPal and Stripe payment functionality for users to checkout their carts

### NBA Fantasy Draft Assistant – (Selenium, Pandas, Matplotlib)

- Created a web scraper to access HTML content of NBA player statistics from NBA.com with Selenium WebDriver and BeautifulSoup
- Cleaned and resolved data to a Pandas DataFrame for easier manipulation and analysis
- Used Tkinter to create a GUI display for easy and convenient access to information with ability to view leaders in statistical categories
- Displayed various player statistics using Matplotlib for simple analyzation

### Autonomous Model Vehicle – (C++)

- Programmed and reworked an EV3 Robotics Kit to simulate an autonomous vehicle
- Incorporated obstacle avoidance functionality using ultrasonic sensors
- Connected additional motors allowing the vehicle to shift gears, reroute, park, and obey common road rules

## Education

### Mechatronics Engineering - University of Waterloo

Class of 2024

- Received University of Waterloo President's Scholarship of Distinction
- Cumulative GPA of 3.90/4.0