

Alexander Gonczaruk

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Skills

Development Languages: Python, C/C++, JavaScript, HTML5/CSS3, Octave

Tools/Technologies: Node.js, MongoDB, MySQL, Express, Flask, Selenium, Pandas, Matplotlib, Scikit-Learn, Microsoft Power Automate, Jest, Jira

Experience

Automation Programmer – Co-op, University of Waterloo

Jan-Apr 2021

- Developed Python programs to control and realign drifting laser beams in the Quantum Ion lab to their desired coordinates using a Raspberry Pi and stepper motors
- Designed GUI displays for the motor control board and laser beam profiler using Tkinter
- Created 3D parts for laser beam 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
- Incorporated backend databases into applications using Microsoft CDS and Teradata
- Gained experience in an Agile environment using Scrum methodology

Projects

Stock Market Scraper – (JavaScript, Express, MongoDB)

Dec 2020-Jan 2021

- Developed a front-end search page using Express granting the user ability to search any stock symbol
- Used Puppeteer and Cheerio to navigate to Yahoo! Finance to scrape real-time stock data and save stock price graphs
- Saved stock data into a MongoDB collection for ability to view and compare day-to-day prices
- Returned scraped data and graphs through client-side JavaScript to display to the user

COVID-19 Visualization and Regression Tool – (Python, Matplotlib, Scikit-Learn)

Jul 2020

- Pulled data from API requests, saved it into a Pandas DataFrame, and displayed COVID infection cases of major states using Matplotlib
- Displayed interactive choropleth maps of disease distribution over the USA using Plotly and Cufflinks
- Implemented multivariate regression to predict future numbers using Scikit-Learn

NBA Statistics Database – (Python, Selenium)

Jan-Feb 2020

- Created a web scraper to access HTML content of NBA player statistics from NBA.com with Selenium WebDriver and BeautifulSoup
- Used Tkinter to create a GUI display for easy and convenient access to information with ability to view leaders in statistical categories

Autonomous Model Vehicle – (C++)

Oct-Dec 2019

- Programmed and reworked an EV3 Robotics Kit to simulate an autonomous vehicle
- Connected sensors and motors for optimal awareness capability with ability to shift gears, reroute, park, and avoid obstacles

Education

Mechatronics Engineering - University of Waterloo

Class of 2024

- Received University of Waterloo President's Scholarship of Distinction
- Cumulative GPA of 3.9/4.0