

# Alexander (Alex) Naylor

[alexandernaylor@outlook.com](mailto:alexandernaylor@outlook.com)

519 404 9131

441 Elizabeth st West

Listowel Ontario, Canada, N4W 1E5

[LinkedIn.com/in/AlexNayl](https://www.linkedin.com/in/AlexNayl)

[GitHub.com/AlexNayl](https://github.com/AlexNayl)

[AlexNayl.GitHub.io](https://AlexNayl.github.io)

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I'm a goal oriented Software Developer and IT Technician with a strong desire to contribute to the fields of space exploitation and space sciences. Offering a well-rounded skill set and the ability to adapt to new technologies quickly.

## Work Experience

### Computer Repair Technician

August 2023 - August 2024

Schneider's Computing, Listowel Ontario

- Primary employee, managing retail operations in Listowel Ontario.
- Troubleshoot, diagnose, and repair desktop and laptop computers, with both Windows and macOS. In addition to many other odd electronics brought into the store.
- Provided expert knowledge to customers.
- Troubleshoot and repair networking systems for residential, commercial and ISP clients.

### Teaching Assistant (Software Systems and Integration)

January 2023 - April 2023

Ontario Tech University

- Led 20 students through several lab activities involving Java and Glassfish backends and HTML and JavaScript frontends.
- Explored file access, multithreading, network communications, and working with build tools.

### Deputy Tabulator

May 2022 - June 2022

Elections Ontario

- Responsible for a tabulation machine during the 2022 Ontario Election.
- Tested the accuracy of the machine, received and counted ballots, submitted results, and returned the tabulation machine, all according to strict procedure.

## Education

### University of Western Ontario

To Be Completed August 2025

Masters of Engineering, Software Engineering

### Ontario Tech University

Bachelor of Science, Computer Science - Data Science Specialization

Completed 2023

- Minored in Astronomy
- Assisted in teaching Software Systems and Integration
- Took several Data Science themed courses such as Data Mining, Database Systems and Concepts, Computer Vision, Big Data Analytics, and Information Visualization.

# Skills

**General Software Development:** Comfortable with several programming languages such as Python, C++, Java, JavaScript, Rust, C#, .Net, and Kotlin. Comfortable with several tools such as Windows, Linux, Git, VS Code, and Maven. Comfortable with relational database design, and querying using SQL.

**Real Time 3D Graphics:** Studied Computer Graphics and Visualization, which explores the mathematics and linear algebra associated with real time 3d rendering in OpenGL. And Computer Vision, which explores the real time linear algebra used in 3d image reconstruction and object identification.

**Computer Networking:** Explored networking topics in several courses during my education. Understands commonly used networking protocols and the networking protocol stack.

**Data Science and Visualization:** Coursework experience with Data Mining, Big Data Analytics, Computer Vision, and Data Visualization. Used languages such as Python and R, and libraries such as Pandas, NumPy, Matplotlib, SkLearn, OpenCV, GGPlot, and the basics of Matlab.

**Web Development:** Coursework experience using HTML, CSS, JavaScript, Bootstrap, jQuery and Vue to create front end web apps.

**Backend Development:** Teaching assistant experience using Java and Glassfish to create both Restful and Web Socket based backends. As well as coursework experience using SQL to build and explore relational databases.

**Mobile Development:** Coursework experience using Flutter, Dart, and Firestore to create multi-platform full stack mobile apps.

**Test Driven Development:** Coursework experience in test driven development methodologies and software development methodologies through the Software Quality Analysis course.

**Computer Hardware and Software Diagnostics:** Experienced in troubleshooting complex hardware and software problems while communicating said complex problems to customers in non-technical language.

## Personal Skills

- Quickly able to adapt to new programming languages and tech stacks.
- Adept at time management.
- Experienced in collaborative programming using Git and GitHub.
- Proficient with teaching programming and teaching troubleshooting techniques.
- General knowledge of orbital mechanics and the space environment through hobbyist interest.

# Projects

## Image Cartoonizer

[GitHub](#)

[Website](#)

- Demonstration of using OpenCV for image processing and computer vision in a Python Jupyter Notebook environment, specifically using color flattening and canny edge detection.

## GeoPhoto Social Media Prototype

[GitHub](#)

- A mobile app made using the flutter framework in collaboration with 3 others in a mobile development class. It's a prototype social media site where users can post geolocated photos on a map, with the data stored on Firebase.

## Web Development Group Project

[GitHub](#)

[Website](#)

- A web application build using Vue and Node.js in collaboration with 4 others in a web development class. Contains several simple video games.

## Data Mining Association Algorithms Comparison

[GitHub](#)

- Various data mining association algorithms implemented in Rust for benchmarking and comparison. The algorithms are Apriori, PCY, Multi Hash PCY, Ransom Sample Apriori, and SON.

## Boid Behavior Model

[Github](#)

[Website](#)

- Made with Rust, Using Web Assembly and the Bevy Game Engine. This demo shows a model for boid behaviour, seen in the real world in structures such as schools of fish.