

ALINA CAI

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Education

University of Waterloo

Honours Bachelor of Computer Science

Waterloo, ON

Sep 2022 - Present

Coursework: Algorithm Design and Data Abstraction, Functional Program Designing

Clubs: Women in Computer Science, Computer Science Club, Data Science Club, Intramural Basketball

Skills

Languages: Python, C, C++, SQL, HTML, CSS, SCSS, Java, JavaScript, TypeScript, Ruby, LaTeX, Racket

Frameworks/Libraries: Pandas, NumPy, Matplotlib, Flask, React, Node.js, Scikit-Learn, TensorFlow, Keras, PyTorch, Kedro

Tools: Git, Linux, Conda, Google Cloud Platform, AWS, Azure, Jupyter Notebook, Seaborn, MLFlow, Prophet, Apache NiFi, Grafana

Experience

Software Engineer | BluWave-ai

May 2023 - Present

- Devised an energy consumption predictor for the state of California, deploying the project on a **Google Cloud Platform VM**
- Optimized time series forecasting accuracy by employing **Prophet** and **LightGBM**, attaining a mean average error of **86 MW**
- Leveraged data engineering to automate the processing and storage of historical and live data from the **California ISO API**
- Applied data analysis techniques such as seasonal decomposition and autocorrelation to identify patterns and other impacts
- Achieved real-time visualization of load and weather data by developing an interactive **Grafana** dashboard using **SQL** queries

President | Lisgar Collegiate Institute Computing Club

Sep 2018 - Jun 2022

- Organized and facilitated weekly technical and networking workshops, fostering programming interest to over 30 students
- Mentored **Python** foundations utilizing online resources, composing practice exercises to enhance concept comprehension
- Directed the development of an application-based **Arduino** project using **C++**, engaging the concept of traffic management

Projects

Titanic Survival Predictor 🐍 | Python, Pandas, Matplotlib, Scikit-Learn

June 2023

- Performed feature engineering and data analysis to build a **ML** model predicting Titanic survival with an accuracy of **81.46%**
- Executed the optimization of a RandomForest Classifier from **scikit-learn**, applying train-validation split to mitigate overfitting

Snake 🐍 | Python, Pygame

May 2023

- Developed an interactive snake game with **Python**, utilizing **object-oriented programming** for organized and modular code
- Implemented instant updating of complex features such as snake collision detection and randomized fruit spawn algorithms

League of Legends Champion Randomizer 🐍 | Python, HTML, Flask, CSS, BeautifulSoup

Jan 2023

- Spearheaded a web application using **Python**, **Flask**, and **CSS**, enabling the dynamic display of randomized champion profiles
- Enacted web scraping techniques using **BeautifulSoup4**, designing an agile **HTML** template for the extracted information
- Utilized **requests** library to fetch and convert image URLs into base64-encoded URIs, facilitating seamless image rendering

Personal Website 🐍 | JavaScript, HTML, CSS

Dec 2022

- Designed and developed an interactive personal portfolio website showcasing various projects using **HTML** and **JavaScript**
- Built an aesthetic theme using **CSS**, applying interactive animations and delivering an optimal multi-platform user experience

Awards

Euclid Mathematics Contest | 99.6% percentile out of 22,372 contestants

Apr 2022

Canadian Computing Contest | 83.5% percentile out of 3,262 contestants

Feb 2022

Leadership

Music Teacher | Alina's Music Studio

Mar 2019 - Jun 2022

- Established a start-up studio delivering thorough instruction of piano, violin, and rudimentary theory to over 35 students
- Provided individualized feedback, promoting confidence and musical growth within a supportive learning environment

Concertmaster | Lisgar Collegiate Institute Symphony Orchestra

Sep 2018 - Jun 2022

- Led an ensemble of over 50 musicians, providing practical expertise on technical intricacies and expressive interpretation
- Collaborated with the conductor and section leaders to cultivate a unified artistic vision and assure cohesive performances