ALINA CAI

✉ alina.cai@uwaterloo.ca   🌐 alina-cai.me   in linkedin.com/in/alina-cai   ⓞ github.com/alina-cai

Education

University of Waterloo   Waterloo, ON
Honours Bachelor of Computer Science   *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, AWS, GCP, Azure, Jupyter Notebook, Seaborn, MLFlow, Docker, Prophet, Kubeflow, 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, devising 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 real-time updates of complex features such as snake collision detection algorithms and randomized fruit spawn

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
- Applied 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