ALINA CAI

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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
- Collecting, preprocessing, and cleaning data from the California Independent System Operator API for further model training
- Developing load forecast predictors for global regions, leveraging **Kedro** to structure modular data engineering pipelines
- Orchestrating the deployment and scaling of future energy consumption pipelines using **Kubeflow** on **Kubernetes** clusters to optimize resource utilization and enable seamless scalability across almost 10 locations, including NYC, California, and Texas
- Containerizing the predictors with **Docker**, facilitating consistent integration onto a **Google Cloud Platform** virtual machine

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