

Wenjin (Selina) Liu

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Education

University of California, Berkeley (UCB), Berkeley, CA

GPA: 3.92

Expected May 2024

B.S. Chemistry

B.A. Computer Science

Jinan Foreign Language School, Shandong, China

GPA: 4.21

May 2020

High School Diploma

Work Experience

University of California, Berkeley – data analyst & researcher at Cohen lab

Summer 2021 - current

- Investigate trends of air pollutants by analyzing satellite data and plotting plots (time-series plots, box-plots....) using plotly express and seaborn
- Building models (multi-linear regression/PCA/ classifier) by using sklearn
- Investigated the effect of soil type on NOx soil emissions (satellite data) with fertilizer application and rain-induced pulsing effects by building L2 regulated, k-fold validated models

Research Internship at Laiwu Water Investment and Development Group

Summer 2019

- Conducted field research to explore the discharge sources of waste water with excessive sulfur content, and put forward treatment needs and suggestions to relevant government departments
- Did controlled experiment under various climate conditions to analyze effectiveness and economic costs of available methods of industrial waste water purification
- Completed a eight-page report and twenty-minute presentation to recommend the final method to apply on large scale.

Previous Projects

- Analyze which lung cells are associated with cystic fibrosis by using table manipulations and visualizations methods.
- Classify movies as comedy or thriller by k-nearest-neighbors classifier
- Evaluate weather climate is change by bootstrapping and hypothesis testing
- Create visualizations of Yelp restaurant scores by using machine learning
- Build a game mimicking Plants vs. Zombies called Ants vs. Some Bees by using Object Oriented Programming
- Analyze Cook County's housing data by using exploratory data analysis and sklearn linear regression model
- build classifier to distinguish spam and ham emails by using sklearn LogisticRegression and cross validation

Coursework and Skills

Relevant Coursework Organic Chemistry, General Chemistry and Quantitative Analysis, Introduction to Physics, Multi-variable Calculus, Linear Algebra and Differential Equations, Foundations of Data Science, Computational structures in Data Science, Principles and Techniques of Data Science

Laboratory UV/Vis-spectrophotometry, NMR, vacuum filtration, crystallization, volumetric pipettes, gas chromatography, TLC, HPLC, titration

Coding Python, SQL, Plotly, PCA, sklearn, random forest, k-fold validation.

Other: Excel, Microsoft Office, Word, PowerPoint, Chinese.

Honors and Awards

Dean's Honor list (college of chemistry)

Fall 2021

Dean's Honor list (college of chemistry)

Spring 2021

UK Chemistry Olympiad, Silver Award

Spring 2019

US National Chemistry Olympiad, Silver Award

Spring 2019

The Avogadro Exam (56th out of 4906 participants globally)

Spring 2019