

# Zelong/Alan Wang

## Contact

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## Test Taken

GRE Verbal: 162

GRE Quantitative: 169

## Skills

### Python



### Stata



### R



### Microsoft Office Suit



### Java



### MATLAB



### Git



### Tableau



### HTML



### Mandarin



### Time management



## Education

### The University of California, San Diego | 2020-Present | GPA:3.98

#### B.S | Data Science

**Related Coursework:** Python, Java, HTML, Data Structures, Data Science Algorithms, Web Scraping, Data Mining, Visualization, Machine Learning, NLP basics, Deep Learning basics.

**Note:** Will learn SQL data management this Fall, and big data and systems such as MapReduce/Hadoop and Spark systematically this Winter. I would have some good understanding and practice before next summer.

#### B.S | Joint Major in Math and Economics

**Related Coursework:** Calculus, Linear Algebra, Numerical Analysis, Optimization, Probability, Statistics, Microeconomics, Macroeconomics, Econometrics (t, z, Chi-squared, F test, Regressions, experiment design, panel data, etc.), Operations Research.

## Experience

### Research Assistant | Professor Dale Squires and Professor Richard Carson | Aug. 2022 – Present

- Explore the underlying pattern in terms of international organizations and their membership fees.
- Reports review and data collation.
- Automatically extract prepare data from low-quality UN reports (1950-2022) using Python, some APIs, and AWS.

### CSE-PACE Program Designer | UCSD | Apr. 2022 – Sep. 2022

- Searched and reviewed a miscellaneous assortment of papers, articles, programs, and games. (approx. 30 pages/week)
- Design CSE cohort programs and build 7 courses on various CS/DS related topics.

### Research Assistant | Professor Richard Carson | Dec. 2021-Present

- Did literature review and gained background knowledge on discrete choice models and related topics.
- Arranged and corrected research data to create representative graphs intended for academic paper. (approx. 60 drafts)
- Coded Monte Carlo Simulation in Stata. Performed qualitative analysis. Coded to achieve conditional logit model.

### Data Analyst/Tech VP | Lumnus Consulting (Student Enterprise) | Nov. 2021-Present

- Collaborated with other leaders to identify and prioritize problems. Organized team events and fostered team communication. Responsible for website maintenance.
- Built prediction models based on historical Instagram and Twitter data. Created visualizations and analyses for the team. Delivered project presentations on how we should present our organization on social media.

### Data Manager & Builder | Robotics Team | 2018 – 2020

### Tutor & Math Team Leader | 2019 - 2021

## Self-Driven Projects

### Forage Data Analytics Virtual Experience programs | Python, Tableau, Excel, Git

- Accenture: After cleaning data anomalies and merging data in **Python**, created **Tableau** dashboard that demonstrates relationships between key features. Practiced storytelling and **presentation** skills by delivering our findings.
- BCG: Deployed automatic EDA using **SweetViz**. Defined, assigned price sensitivity to each customer. Tested hypothesis by **permutation test**, **K-S test**, and heat map. Predicted customer churn by **Random Forest** and **XGBoost**.

### Analysis of Power Outage Status in the Continental U.S. | Python, Excel

- Went through the full process of questioning, researching, data cleaning & EDA, missingness assessment, hypothesis test, baseline model, more feature engineering, final model, and fairness analysis.

### Indian Crop Production and Indian Climate Analysis | Python, Slides

- Literature review on previous reports about Indian agriculture, pastoralism, and climates.
- Data gathering, data mining, interactive visualization using **bs4**, **JSON**, **Geopandas**, **Altair**, **Folium**, **Plotly**.
- Reported findings and provided suggestions.

### Simple Language Model | Python

- **Web scraping** for specific books from a public book website. Tokenize corpora.
- Created an N-Gram Language Model that can generate paragraphs resembling the style of an author or a book.

### Wealth Prediction based on 1991 Survey of Income and Program Participation (SIPP) | R

- Gained background knowledge about data. Applied EDA, feature engineering.
- Incorporated and compared **polynomials** and **splines** in **GAM**. Tested **full OLS**, **Lasso**, **Ridge**, **Stepwise regression model** and **Random Forest model**.