

# Kelly (Yiwei) ZHAO

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## Education Background

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### University of California, San Diego (UCSD)

*B.S. Major in Probability & Statistics, Minor in Computer Science*

San Diego, California

Sep. 2016 - Dec. 2018

- **Courses:** Data Science (A+); Stochastic Processes I (A-); Math/Algorithm & Systems Analysis (A); Numerical Methods/Physcl Modlmg (A); Advanced Data Structures (A-); Intro/Analysis I & II (A, A-); Math Statistics II (A-); Data Analysis and Inference (A); Modeling & Data Analysis (A); Intro/Machine Learning I & II (A, A)
- **Honors:** Provost Honors (three times), Spring 2018 & Fall 2017 & Fall 2016

### University of Oregon (UO)

*Major in Mathematics (GPA: 3.76/4.0)*

Eugene, Oregon

Mar. 2014 - Jun. 2016

- **Honors:** Dean's List, Spring 2015; CSSA Fall Term Scholarship (Top 5% / 50)

## Certificates & Skills

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- **Certificates (Online Courses):** Machine Learning & Deep Learning (Stanford University through Coursera)
- **Skills:** R, Python, JavaScript, Java (*Projects: Tetris, Escape Maze*), C++, C (*Project: Connect Four Game*), MATLAB, PHP/CSS/HTML/XML, Arduino, Photoshop, Illustrator, SolidWorks (3D printing), Bash Shell Scripting, JUnit test
- **Volunteer Experiences:** 100 hours for UO Football Team (*Mar. - May 2015*), 2014 Eugene Marathon, One Hope Volunteer Association (helping low income families) and Chinese Church (assisting primary school in daily teaching)

## Researches & Projects

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### Brain and Cognition Lab

*Supervisor: Professor/Lab PI: Seana Coulson & Dr. Megan Bardolph*

San Diego, California

Sep. 2018 - Dec. 2018

- Analyzed sentiment within collections of documents based on Sandford CoreNLP, TextBlob & Sentiment 140
- Set up and collected data from EEG tests on categorical and graded Face perception, preprocessing data by ICA

### Gentner Lab

*Supervisor: Dr. Marvin Thielk*

San Diego, California

Sep. 2018 - Dec. 2018

- Built models for bat sounds and focused on segmentation, dimensionality reduction by PCA, t-SNE & autoencoder
- Learned autoencoders such as Generative Adversarial Interpolative Autoencoder (GAIA), Variational Autoencoder (VAE), Multidimensional Scaling (MDS) autoencoder, and Uniform Manifold Approximation and Projection (UMAP)

### Data Analysis Projects

*Python; R; C++; MATLAB*

San Diego, California

Jan. 2018 - Dec. 2018

- **Project 4:** Presented a large-scale empirical comparison between SVMs, KNN, logistic regression, random forests & decision trees based on 3 partitions (20/80, 50/50, 80/20) \* 3 datasets \* 3 trails with Python programming
- **Project 3:** Assisted wholesale company predict customers behavior based on PCA, K-means & GMM with Python
- **Project 2:** Implemented random forest, Lasso, stepwise regression and logistic regression to help DonorsChoose.org connect donors with projects they care about; visualized the projects, donors and donated schools with R programming
- **Project 1:** Built up Barack Obama's oral vocabulary database based on his 200 speeches and Markov chain simulation; auto generated document templates by mimicking Obama's style based on C++ programming

### Data Science Student Society

Oct. 2016 - Dec. 2018

- Participated in the monthly workshops led by Dr. Daniel Maryanovsky (Sponsored Researcher at UCSD Tu Lab), and involved in the model implementation and performance analysis for machine learning algorithms like Naive Bayes Classifier, K Nearest Neighbors (KNN), Support Vector Machine (SVM) and Artificial Neural Network (ANN)
- Co-organized the HackXX (Hackathon Competition with 200 CS background undergraduate participants)

## TA Experiences

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### Department of Cognitive Science at UCSD, Undergraduate Instructional Apprentice

Sep. 2018 - Dec. 2018

- Graded homework, formulated exam questions, answered questions on Piazza and held office hours (1 hour per week) for 140 students in the course **Modeling & Data Analysis** of professor Eran A. Mukamel.

### Mathematics Library at University of Oregon, Drop-in Math Tutor

Oct. 2015 - Jun. 2016

- Assisted professors to grade quizzes and homework of **Calculus I & II, and College Algebra** for over 40 students

## Work Experiences

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### Sino-American Finance Association

*Web Developer Intern*

Los Angeles, California

Jun. 2017 - Sep. 2017

- Integrated big data from various back-end services and databases by WordPress to analyze and predict users action
- Organized website layout and user interfaces by HTML/CSS/PHP/JS (<http://saf-a-us.org>)
- Designed flyers, banner, brochure & tickets for events by Photoshop, Illustrator & Premiere to attract more customers
- Joined a team organizing SAFA summer convention for 200 celebrities including mayor, Hollywood stars & CEOs
- Programmed two online calculators in JavaScript to estimate the life/car insurance based on user input