Hao-Li Huang

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Adept scientist with proven analytical and communication skills developed from years of research experience

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EDUCATION

Yale University   New Haven, CT
Ph.D. Biophysical Chemistry (GPA: 3.96/4.00)   *Expected July 2021*
- Taiwan Government Scholarship, one of 125 recipients nationwide

National Taiwan University (Ranks 1st in Taiwan)   Taipei, Taiwan
B.S. Chemistry (GPA: 3.94/4.00)   *June 2013*
- Top 5% of the 70-student class: Presidential Award (twice) & Phi Tau Phi Scholastic Honor Society

TECHNICAL SKILLS

- **Coursework:** Probability and Statistics, Linear Algebra, Machine Learning, Text Mining, Social Network Analysis
- **Programming Languages:** Python (NumPy, pandas, matplotlib, seaborn, scikit-learn, RegEx, plotly, SciPy, statsmodels, NLTK, NetworkX), R (rjags), MATLAB, SQL, LaTeX
- **Statistical Tools:** Bayesian statistics, Markov chain Monte Carlo, Numerical simulation, Bootstrapping, A/B testing

SELECTED DATA SCIENCE PROJECTS

Graduate Research Project, Yale University (Manuscript Submitted)   *August 2019 - Present*
- Modeled Markov process time series to construct complex enzyme kinetic models, and implemented the model using MATLAB scripts to analyze experimental data, leading to new mechanistic insights

Boston Regional Datathon by Citadel   *March 2021*
- Scraped data from Wikipedia; cleaned and combined data from multiple sources using Python (NumPy, pandas, RegEx) and built linear regression model (statsmodels) to identify important factors that corelate with Covid-19 deaths

Assignment, Applied Text Mining in Python, Coursera   *November 2020*
- Tokenized text messages and built models to predict if message is spam (scikit-learn), achieving AUC scores of > 0.978

RESEARCH, COMMUNICATION, AND MENTORING EXPERIENCE

Yale University, Department of Chemistry   New Haven, CT
Graduate Researcher   *June 2016 - Present*
- Manufactured new hardware interfaces to automate data collection; wrote MATLAB script to automate data analysis, resulting in a >90% improvement of productivity
- Developed innovative modifications to gas-tight system for photosynthesis research for optimization, resulting in a boost of >70× efficiency; designed and manufactured novel apparatuses by collaborating closely with glassblowers, electricians, and machinists to run experiments under a gas-tight environment, achieving a high measurement precision of < ±0.1%
- Authored 4+ publications, including book chapters accessible by interdisciplinary audiences
- Mentored undergraduate student on senior research project from designing and conducting experiments to writing up and editing manuscript, resulting in a publication; taught basic scripting using MATLAB to process and visualize data

Yale University, Department of Chemistry   New Haven, CT
Teaching Fellow, 4 Semesters   *September 2015 – May 2017*
- Led weekly discussion sections for 10-16 students; prepared handouts to clarify important concepts; catalyzed productive group discussions; advised students individually
- Demonstrated lab techniques in weekly teaching lab sections for 14-17 students; graded weekly quizzes and reports

Academia Sinica (National Academy of Taiwan), Institute of Atomic and Molecular Sciences   Taipei, Taiwan
Research Assistant   *July 2014 - June 2015*
- Designed innovative apparatuses to enable measurements on short-lived molecules; wrote MATLAB script to efficiently process spectral data; published a first-author paper cited 120+ times

National Taiwan University, Department of Chemistry   Taipei, Taiwan
Undergraduate Researcher   *June 2011 - June 2013*
- Analyzed data of stochastic processes using probability theory and regression analyses to test hypotheses in an independent biophysical research project, resulting in the receipt of Outstanding Poster Award

ACTIVITIES AND INTERESTS

- Board games (collection of 60+), Singing (8+ years choral experience), Travel (10+ countries visited)