Yang **Dai**

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Skills

Languages	Python, C++, JavaScript, SQL, Shell Scripts, LabView, AWS, CSS, HTML
Libraries	Numpy, Pandas, Matplotlib, Seaborn, NLTK, Scipy, PySpark, Scikit-Learn, Keras, Tensorflow, XGBoost
Methods	Linear, Logistic Regression, Naïve Bayes, Neural Network (CNN, RNN, LSTM), SVM, Clustering, Bagging, Boosting
Other Tools	Git, Jupyter Notebook, Docker, Serverless, Regex, React, Django, Web Scraping, Vim, Emacs

Experience

Massachusetts Institute of Technology *Cambridge, Massachusetts*

Postdoctoral Fellow *Jun. 2017 - Exp. Jun. 2019*

- Studied bimetallic catalysts and matched experimental observations to theoretical models using statistical simulations.
- Created in-house python libraries for modeling and visualizing collected research data.
- Automated data analysis process using Shell, SQL, and Python scripts to reduce human error and improve result reproducibility
- Engineered various features on the collected data to gain better insight into our targeted system.
- Presented research results to general as well as expert audiences through seminars, conferences, talks, and posters.

University of Utah *Salt Lake City, Utah*

Research Assistant *Aug. 2011 - May. 2017*

- Analyzed catalytic property of size-selcted Platinum clusters through large datasets generated from a custom surface science apparatus.
- Made major contribution to the development of in-house software, which is used for data acquisition and system control.
- Developed a novel techinique to extract information from spectroscopic data that lead to uncovering unknown nanoparticle size effect.
- Collaborated with 7 other research institutes for design and fabrication of a sophisticated ultra-high vacuum instrument.

Projects

Python Package for Research Data Processing and Analysis

Source Code: www.github.com/superyang713/LabCode

- Wrote a Python Library for preprocessing, modeling, and visualizing data collected from various surface science instruments.
- Developed algorithms to calculate surface coverage of Gold Nickel Alloy after literature search.

Full Stack Web App Development

Demo: www.yangdaitech.com Source Code: www.github.com/superyang713/ETL

- Identified a potentially profitable niche in the education market and decided to make a web app for English teaching and learning.
- With limited budget, adopted serverless technology, such as DynamoDB, Lambda, API Gateway, and Cognito as the most suitable method.
- Self-learned ReactJS framework and various Javascript modules for front-end development.

Courses & Certifications

Applied Data Science with Python	Coursera University of Michigan Specialization - 96.2%
Deep Learning Speicialization	Coursera deeplearning.ai Specialization - 97.4%
AWS Solution Architect - Associate	009MBCZ21M4QQ2W7

Education

University of Utah *Salt Lake City, Utah*

Ph.D. in Physical Chemistry *Sep. 2011 - May. 2017*

- Thesis: Electronic Characterization Of Size-Selected Platinum Clusters and Modification Through Atomic Layer Deposition.

California State University, East Bay *Hayward, California*

Bachelor of Science in Chemistry *Sep. 2007 - Jun. 2011*