Yang **Dai**

DATA SCIENCE · PROGRAMMING · ENGINEERING

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Education

University of Utah *Salt Lake City, Utah*

PH.D. IN PHYSICAL CHEMISTRY *Jun. 2011 - May. 2017*

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

Experience

Massachusetts Institute of Technology *Cambridge, Massachusetts*

POSTDOCTORAL FELLOW *Jun. 2017 - Exp. Jun. 2019*

- Transitioned data analysis method from conventional Excel-like spreadsheet to Python Scripting for improved automation and result re-producibility.
- Increased the accuracy of experimental results by introducing new algorithm and data modeling method to our previous analysis techniques.
- Built a remote pressure monitor web app for lab instruments to increase lab safety and productivity.
- Created a custom jupyter notebook docker image that contains all the necessary packages for lab data analysis. Simplified environment setup for colleagues who are new to python.

University of Utah *Salt Lake City, Utah*

RESEARCH ASSISTANT *Aug. 2011 - May. 2017*

- Designed, fabricated and maintained a sophisticated surface science apparatus from the ground up, as a result of a collaboration with 7 other research institutes.
- Created multiple data analysis templates for processing lab data generated from the custom instrument.
- Wrote LabView programs for data acquisition and system control.
- Preliminary results disagreed with those documented by our collaborator. As a result, designed and conducted additional experiments, and upon data interpretation and literature search, discovered nanoparticle size effect.

Projects

Python Package for Research Data Processing and Analysis

WWW.GITHUB.COM/SUPERYANG713/LABCODE

- Data analysis: preprocess, modele, and visualize data collected from various surface science instruments.

Personal Tech Blog

WWW.YANGDAI.INFO

- Web Development: A personal website using Django and PostgreSQL as backend, and deployed it on AWS.

Skills and Certification

Certification	AWS Solution Architect - Associate
Programming	Python, C++, JavaScript
Data Science	Numpy, Pandas, Matplotlib, Scikit-Learn, Keras, Tensorflow
Web	Django, HTML, CSS
Tools	Emacs, Vim, Git, Jupyter Notebook, Shell, Spark, Docker, SQL, LaTex
Languages	English, Chinese, Japanese (intermediate)