

EDUCATION

University of California, Berkeley

M.Eng Materials Science and Engineering conc. Data Science

GPA: Major GPA 3.92

Berkeley, CA

June-2023

University of California, San Diego

B.S Chemical Engineering, Minor: Computer Science

San Diego, CA

June-2021

CORE SKILLS

- **PROFICIENT:** C++, JAVA, MATLAB, COMSOL, ASPEN, PYTHON (NUMPY, PANDAS, MATPLOTLIB.PYPLOTT), SQL, TensorFlow and Keras
- **INTERMEDIATE:** C, HTML, CSS and JAVASCRIPT

WORK EXPERIENCE

Sr. Data Engineer (P3)

Fremont, CA

Tesla Inc

April, 2024 – December, 2024

- Developed FAST (Formation Analytics Screening Toolbox) library that is used for our data scientist to further deepdive on the new development recipe during formation and can get a deterministic conclusion of whether the trial is success or not.
- Developed and maintained RAPID dashboard for our Berlin and Austin site for process engineer to get a real-time data which is used in making changes that affects production lines
- Developed and assisted an automated early defect detection during End of Life (EoL) which resulted in vendor scoring parameters for business analytics team

Data Engineer (P2)

Fremont, CA

Tesla Inc

May, 2023 – April, 2024

- Implemented and developed a successful data stream for temperature, pH and current reading for Milmont factory to be posted on the AWS database.
- Developed proprietary ML models generation 4 and 5 to simulate the performance of Model Y and Model 3 batteries coming from different vendors
- Developed recipe systems for development team and process team for API call and sync which enable unique recipe to be created for batteries for trial and testing purposes resulting in higher R&D output giving rise to 4680 Battery cells.

Data Science Intern

San Francisco, CA

ATOM Science

September, 2022 – May, 2023

- Using Python to curate drug discovery-related datasets and build machine learning models to predict molecular properties
- Using ML Models to explore several questions around transfer learning and active learning techniques in order to make the most of the information available within the datasets
- Screens large databases of molecules in order to identify the best candidates to move into wet lab testing.

Process Development Engineer, Formation

Irvine, CA

Rivian

September, 2021 – September, 2022

- Developed proprietary recipes for R1S, R2 and R3 model which resulted in a higher compatibility with Tesla's Supercharger
- Developed protocols to see SEI formation anomaly during precharge steps on the formation process as predictive method
- Deployed 6 different recipes which consist of 4 development recipes and 2 production recipes which became the standard recipe for one year from December 2021 to December 2022

RESEARCH ACTIVITIES

Research Assistant

San Diego, CA

Battery Engineering, Department of Nanoengineering, UCSD

September, 2020 – June, 2021

- Assembled coin cells to be subjected for an electrical test through the use of battery cycler.
- Adept in utilizing basic lab techniques such as glove box, vacuum oven, NMR, FTIR and ROTAP shaker.
- Harvest and teardown cells such as cathode, separator and electrolytes for recycling.
- Prepared and synthesized cathode active material to be subjected for physical testing through the use of XRD, and FTIR
- Document result of the experiment through report and perform literature review on a set period of time to keep up with the current state-of-art.

PROJECT WORK

Chemical Engineering	MATLAB	C++	JAVA
Catalytic Bed Reactor	Ideal Gas Simulation	Ant vs Doodlebug	2048
Hydrogen on Demand	Characterizing the Spatiotemporal Output of a Speaker	Employee Paycheck	Deques
LPCVD	Digital Image Processing		Gitlet

Please email me for the view-only code of individual projects

GITLET (JAVA)

July 2022

- Imitate Github functionality through the use of abstraction techniques which resulted in a successful implementation of java main.Gitlet {commands} including: init, add, commit, checkout, status, log, merge etc
- Implemented a suitable data structures that capable of giving branching functionality to GITLET with $O(n)$ complexity
- Implemented an efficient persistence whereby user can revert to the old version of a file at a certain period of time

LPCVD (Low Pressure Chemical Vapor Deposition)

March, 2021 – June 2021

- Developed a boat reactor that accomplished nearly 100% uniformity for silicon wafer through the utilization of COMSOL
- Computed a design of experiment using 2^k techniques that identified important parameters to be reported to the project manager
- Rendered a 3D and 2D model of a wafer uniformity model which then demonstrated by the use of MATLAB to interpret experiment parameters in term of uniformity using fluid dynamics, heat transfer and mass transfer models.

Digital Image Processing (MATLAB)

April 2020

- Apply digital video camera measurement and quantitative digital image processing techniques in MATLAB
- Identify how digital signal characterization issues encountered earlier, such as amplitude, resolution, and sampling rate, apply to digital imaging
- Implemented code that convert digital signals to analog signals using pulse width modulation and low pass filter

Characterizing the Spatiotemporal Output of a Speaker (MATLAB)

February 2020

- Utilized motor/driving control with Arduino via G-Code to move speaker from sensor
- Applied a signal conditioning such as time domain averaging to enhance the signal quality (signal-to-noise ration)
- Implemented code that convert digital signals to analog signals using pulse width modulation and low pass filter