

EDUCATION

University of Wisconsin-Madison
B.S. Chemical Engineering 2016

SKILLS

PROGRAMMING / FRAMEWORKS: Python, SQL, AWS

PACKAGES: NumPy, Pandas, Scipy, Scikit-Learn, Keras

DATA SCIENCE: Regression, Classification, Clustering, NLP

DATA VISUALIZATION: Matplotlib, Seaborn, Tableau

EXPERIENCE

METIS Data Scientist

San Francisco, CA
Apr 2018 to Jul 2018

- Full-time, selective 12-week data science immersive used to hone, expand, and contextualize skills in statistical modeling and machine learning.
- Built five data science projects using Python using common data science packages such as NumPy, SciPy, Matplotlib, Pandas, scikit-learn, and Keras (TensorFlow).

MICRON TECHNOLOGY Process Engineer

Boise, ID
Jul 2016 to Apr 2018

- Designed and optimized Thin Film CVD/ALD/PVD processes for leading edge memory technologies at Micron's R&D FAB.
- Defined and established flow, procedures, and equipment configuration for many films in the bit-line module of Micron's DDR4 DRAM.
- Designed, executed and analyzed experiments necessary to meet engineering specifications.
- Worked with semiconductor equipment suppliers to identify shortcomings, propose and evaluate hardware modifications to mitigate issues.
- Established process control systems for each process module developed.
- Transferred processes to high volume manufacturing sites in Japan, Taiwan, and Singapore.

PROCTER & GAMBLE Process Engineer

Oxnard, CA
May 2015 to Aug 2015

- Three-month internship in the family care division of Procter & Gamble focused on new technology implementation for the paper manufacturing processes at the Oxnard, CA plant.
- Completed five process improvement projects concentrated on defect reduction, failure analysis, and increasing machine uptime.
- Projects' outcomes produced annual savings of over \$200,000/year.

DATA SCIENCE PROJECTS

D.J. PIKACHU MUSIC GENERATION

- Used recurrent neural networks to generate new music after training on soundtracks from my favorite childhood video games.
- Trained on Zelda Ocarina of Time, Pokemon Red/Blue/Yellow, and Final Fantasy VII soundtracks.
- A.I. generated songs can be found on SoundCloud [here](#).

"ALL YOU NEED IS LOVE" - JOHN LENNON

- Used the lyrics of every Beatles song ever released to try and predict the songwriter solely on the lyrics.
- The best classifier (SVM) was able to predict songwriter with 50% accuracy, 18% better than just guessing the majority class (ZeroR).
- Performed Topic Modeling using LDA for each of the Beatles's band members.
- Utilized NLTK, Gensim, Spacy, scikit-learn, and Keras packages.

SHAZAM, WAS THAT SONG NICKELBACK OR PITBULL?

- Built machine and deep learning classifiers to distinguish between Nickelback and Pitbull MP3 song clips.
- Utilized Music Information Retrieval (MIR) techniques to extract music features from Nickelback and Pitbull MP3 files.
- Built a deep learning classifier with an accuracy of 0.91 and an average F1 score of 0.91 using Keras (TensorFlow).

HOW MUCH SHOULD YOU PAY FOR THAT 1960'S FENDER STRATOCASTER?

- Scraped ~35,000 used guitar sales from Reverb.com to build a used-guitar pricing model using machine learning.
- The best pricing model had a Mean Absolute Percent Error (MAPE) of less than 9%.