

## SUMMARY

Experienced Mechanical Engineer with background in manufacturing and industrial automation machinery, up-to-date data science skills, and deep-rooted personal interest in environmental sustainability.

## SKILLS

**DATA SCIENCE:** Python, Scikit-learn, Seaborn, Pandas, XGBoost, NLP, SQL, Web Scraping, Cloud Computing, TensorFlow, Regression, Classification, Deep Learning, Flask, Jupyter Lab, IPython  
**MECHANICAL ENGINEERING:** Solidworks, Mechanical Design, Sourcing, Inspection, Troubleshooting, FEA, Statics, Dynamics, Heat Transfer, Mechanical Assembly, Metrology, Controls Engineering, Operator Training

## EXPERIENCE

### METIS Data Scientist

San Francisco, CA  
June 2020 to Sept. 2020

Completed a 12-week accredited data science bootcamp focused on Python programming, machine learning, statistical modeling, data visualization, project design, and communication. Devised individual supervised and unsupervised machine learning models to implement objectives and build statistical models using historical data. See project section.

### ELECTROIMPACT INC Project Engineer

Mukilteo, WA  
Jan. 2014 to May 2020

- Designed, built, installed, and debugged new machinery and extensive retrofits to existing machinery at Kawasaki factories in Nagoya, Japan
- Advocated successfully for forming more relationships with machine and fabrication shops in Japan to purchase large fabricated parts locally instead of purchasing in North America and shipping across the Pacific Ocean, saving money and reducing environmental impact
- Headed final acceptance testing and alignment/calibration for numerous pieces of machinery using precise instrumentation and data analysis
- Oversaw installation and training for new assembly line safety features at the Charleston, SC Boeing factory
- Designed, built, tested, and installed components of drilling and riveting machines

### SOLAR ENERGY MANAGEMENT Technical Drawing Intern

Morrisville, NC  
May 2013 to Dec. 2013

- Standardized AutoCAD drawing practices for rooftop solar array structural drawings
- Built MS Excel-based calculators to integrate data from new shade mapping tools into estimating seasonal power generation of residential solar PV installations

## PROJECTS

### THE JOY OF NEURAL NETWORKING

Aug. 2020 to Sept. 2020

Constructed and trained a GAN to translate photographic portraits into Bob Ross-style paintings using transfer learning

### JAPANESE NOODLE SHOP RECOMMENDER

Aug. 2020 to Aug. 2020

Developed a basic web application to recommend either similar or different noodle shops in Japan, based on NLP and LDA-based topic modeling of Japanese-language reviewer comments scraped from Tabelog

### MOTORCYCLE NOISE CLASSIFIER

July 2020 to Aug. 2020

Built and trained an extreme gradient boosting model to distinguish short web-scraped audio samples featuring different makes of motorcycles with 90% accuracy on 5-second clips

### PREDICTING BOX OFFICE GROSS BY EXPERIENCE IN VARIOUS ROLES

July 2020 to July 2020

Used web scraped data on 10,000 movies to study the importance of previous experience in the role of actor, director, editor, etc in predicting domestic box office gross.

### DIFFERENTIAL EFFECTS OF COVID-19 ON CITIBIKE AND NYC MTA

June 2020 to July 2020

Used data analysis and visualization techniques to investigate potential opportunity for Citibike to target areas where shared bicycles are most directly replacing subway ridership as an impact of COVID-19 and related restrictions

## EDUCATION

North Carolina State University  
B.S.M.E. Mechanical Engineering 2013  
summa cum laude

North Carolina School of Science and Mathematics

## ACTIVITIES

BOY SCOUTS · Eagle Scout

2002 to 2009