

Ziying Feng, PhD

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Skills

Machine Learning: Python (NumPy, Pandas, Matplotlib, Scikit-Learn, TensorFlow Keras, OpenCV, Beautiful Soup), Jupyter Notebook, Natural Language Processing (NLTK), recommender system, supervised/unsupervised machine learning, Regression, Classification, Clustering, Linear Regression, Logistic Regression, SVM, Decision Tree, Random Forest, XGBoost

Programming Language: Python, Java, SQL, R, Matlab

Web Development: Git, HTML / CSS, JavaScript, JSON, Spring Boot

Work Experience

Lam Research Corporation, Process Engineer (Fremont, California)

Nov 2022 – present

- Predicted process data trend by linear regression, fitting data points to predict the results, reducing days of operation.
- Compared variations and trends from customer's production data to provide practical solution to match performance between different machines.

Applied Materials Inc, Process Engineer (Santa Clara, California)

Aug 2020 – Oct 2022

- Image classification using Random Forest and SVM and compare results with these models. Read and convert images to vector with OpenCV, combining alpha channel of the image and the original image to emphasize the feature of the images. Add Gaussian noise to the images to increase the robustness of the model.
- Detected abnormalities of equipment with the data from statistical process control, to troubleshoot customer site chamber matching problems.

UCLA, Research Assistant (Los Angeles, California)

Sept 2014 – Mar 2020

- Classification of movements from EEG images with Deep Learning Neural Network
- Applied STFT (Short Time Fourier Transform) on the time series EEG (Electroencephalography) data (2115 trials, 25 electrodes, 1000 time bins) to extract the frequency feature, used cropping technique for data augmentation.
- Developed the CRNN model in TensorFlow Keras using the CNN (Convolutional Neural Network) to capture the spatial feature and the RNN (Recurrent Neural Network) to capture the temporal feature.
- By tuning the hyperparameters of the model using grid search cross validation from Scikit-Learn, achieved the accuracy up to 74% for each patient and the accuracy of 56% for all patients.

Other Computer Science Projects

Insight Data Science Fellow: Predict Podcast Ratings Based on Podcast Reviews (Python, NLTK)

- Scraped 10k+ podcasts data from iTunes, including the descriptions, reviews with Selenium and BeautifulSoup.
- Cleaned the text data with NLTK, applied the TF-IDF weighing scheme on the text, classified the reviews into different categories, and applied the sentiment scores to the reviews with VaderSentiment.
- Predicted the podcast rating with SVM at 76% accuracy. Deployed the application on AWS by launching an EC2 instance, and upload my application to AWS S3.

Georgia Tech Institute Computer Science Program Course Project: Database API from scratch (SQL, PHP, CSS)

- Developed application for data processing with PHP and CSS. Input SQL queries into PHP files to implement CRUD operations against thousands of sale and population entries in the database.

Internship

Verily Life Sciences (formerly Google Life Sciences), Hardware Engineer Intern

Jun 2018 – Sep 2018

- Automated oscilloscope data collection for prototype testing with Python.
- Wrote Python codes to connect the oscilloscope with the computer, and automatically collect data, process data.
- Wrapped the codes into an executable API and saved approximately 200 hrs time for researchers using it.

Education

University of California, Los Angeles (UCLA), Los Angeles, PhD, Chemistry, GPA: 3.8/4.0

Mar 2020

Sun Yat-Sen University (SYSU), China, BS, Optical Information Science and Technology, GPA: 3.9/4.0

Jun 2014