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# Jinzhao Feng

# Summary

Solid knowledge in supervised/unsupervised machine learning algorithms Hand-on experience in deploying Machine Learning/Deep Learning models Experience in data management systems, such as SQL, Hadoop, Spark Looking for a job related to data science or machine learning

## Skills

Big Data: SQL server, Hadoop, Spark

Machine Learning: Scikit-learn, Xgboost, Pandas, Numpy

Deep Learning: Pytortch, Tensorflow, Keras

Plantform: Windows, Mac Os, Linux

Cloud Environment: AWS, Microsoft Azure Programming: Python, SQL, Matlab, Java

## Education

University of California, San Diego	Sep.2016-Jun.2018
M.S in Electrical and Computer Engineering	San Diego, USA
Nanjing University of Posts and Telecommunications B.Eng. in Communication Engineering	Sep.2012-Jul.2016 Nanjing, China
New York Institute of Technology (Joint Program)	Sep.2012-Jul.2016
B.S. in Communication Engineering	New York, USA

### Coursework

Statistical Learning, Machine Learning for Image Processing, Parameters estimation, Machine Learning for Physical Application, Digital Image Processing, Programming for Data Analysis, Elements of Machine Intelligence, Information Theory

# Project Experience

#### **Trigger Word Detection**

Jan.2018 - Mar.2018

- Aimed to wake up a system by recognizing a trigger word in an audio recording.
- Collected dataset by synthesizing speech and noise, and then digitalized these audios.
- Implemented a RNN model with 2 layer GRUs (128 hidden state) for training.
- Used a dense + sigmoid layer to make a prediction  $(0\sim1)$  at each time step.
- Test accuracy was as high as 94% for a threshold of 0.5.

#### **Autonomous driving by Convolutional Neural Network**

Oct.2017 - Dec.2017

- Aimed to build a fast and accurate car detection system for a self-driving car.
- Implemented YOLO algorithm by Keras to train pictures taken by a camera in a car.
- Selected correct test outputs (bounding boxes) among lots of overlapping boxes by applying score-thresholding and non-max suppression.
- All required vehicles can be successfully detected with a threshold 0.6.

#### Source Localization in Ocean Waveguide

Mar.2018 - Jun.2018

- Aimed to track a ship in ocean from its noise data by using machine learning model.
- Added label (range index in ocean) on noise data for supervised learning
- Implement three different models, Feed-Forward Neural Network, Support Vector Machine and Random Forest.
- SVM with a linear kernel achieved lowest mean absolute percentage error, 4.98%.
- Report Link: http://noiselab.ucsd.edu/ECE228/Reports/Report1.pdf

#### **Real Estate Price Analysis**

Jan.2017 - May.2017

- Used Numpy and Pandas to clean and format Data downloaded from Zillow Research
- Applied Linear Regression Model on datum to predict real estate price and analyze return of investment both in long term (since 1996) and short term (since 2011)
- The result suggests investors to purchase houses in 92113 with 19.67% return every year, while 92121 only has 6.04% in the past 6 years.
- Github Link: https://github.com/paulszh/San-Diego-Real-Estate-and-Rental-Price-Analysis

## Honor & Award

- Dean's Honor List (GPA> 3.5/4.0), New York Institute of Technology Mar.2015&Oct.2015
- Presidential Honor List (GPA> 3.7/4.0), New York Institute of Technology Feb 2013&Feb2014