Tian Zhang

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EDUCATION

University of Southern California, US August 2017 – May 2019
Master of Science, Electrical Engineering GPA:3.9/4.0

Beihang University, China September 2013 – June 2017
Bachelor of Engineering, Automation Science and Electrical Engineering GPA:3.5/4.0

SKILLS

Skill: Data Analysis, Machine Learning, Natural Language Process, Image Process, Android Develop
Software | Framework: AWS, Docker, Git | TensorFlow, Pytorch, Flask
Coding Language | Tool: C/C++, Python, SQL, Java | MATLAB, Jupyter, Pycharm, MySQL, Android Studio

WORKING EXPERIENCE

(Intern) Machine Learning Engineer @ AiTmed | Anaheim, CA May 2019 – Now

Deploy Trainable Online Image Classification Platform

- Built an 8-layer ***MobileNet*** image classification model, with a test accuracy of 85% in CIFAR-10 dataset
- Designed ***RESTful API*** included building model, loading existing model, training and report of loaded model and saving model by using ***Flask*** and all data and models are stored and can be exported from AWS S3

Arm Injury Condition Detection from video

- Applied CNN with RNN to predict arm injury condition based on 3 mins video of patient's arm (On going…)

(Intern) Software Develop Engineer @ Digital China | Beijing, China May 2016- August 2016

- Implemented activities included registration and login account, adding friends in Android App by ***Kotlin***
- Designed and tested online chatting system of e-commercial platform in Android App

PROJECTS

(Deep Learning, Image Processing) Fast Super-Resolution CNN for Human Image March 2019 – May 2019

- Imported ***MobileNet*** into ***Fast Super Resolution CNN(FSRCNN),*** reduced model parameters by 65%
- Extracted features from human face images by pretrained model, imported these features as inputs into dense layer.
- Maintained the image resolution **(PSNR:31.9 SSIM:0.858),** meanwhile reduced 30% of image generation time

(Unsupervised Learning, NLP) Copycat App Detection March 2019 – April 2019

- Used ***Gensim*** and ***NLTK*** to extract nouns and verbs of App descriptions, vectorized each app by ***bag-of-words*** model
- Applied ***TD-IDF*** and ***PCA*** to extract features from 40,000 App descriptions, data dimension reduced by 90%.
- Used ***Agglomerative Hierarchical Clustering*** to find Copycat Apps, with a ***Silhouette Coefficient*** of (0.7/1.0).
- Detection of copycat Apps in the first 50 similar apps from original App has an average accuracy of 83%
- Applied ***KNN*** to find several similar movies as the recommend related movie of one chosen movie.

(Supervised Learning, Regression) Movie Revenue Prediction and Item-based Recommendation

- Analyzed more than 40,000 movies from IMDB, vectorized information into numerical value, applied ***semi-supervised KNN*** to fill missing data, Applied PCA to extract important feature.
- Trained models by several regression methods ***(Random Forest***, ***Adaboosting, SVM, Ridge Regression)*** output the best prediction model (Random Forest) with an average error less than 15%, R^2 score is 0.67(increased 0.2 from logistic regression).
- Applied ***KNN*** to find several similar movies as the recommend related movie of one chosen movie.

(Data Analysis, Regression) News Popularity Prediction October 2018 – November 2018

- Implemented ***ANOVA*** test and ***forward feature selection*** to test reliability and found the most influential features.
- Developed ***Logistic Regression*** model on SPSS, increased final accuracy by 34% compared to by-chance model