JIA (ELVIS) SHI

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SKILLS

Tools: Python, Java, Pandas, Pytorch, Scikit-learn, OpenCV, CoreML
Fields: Algorithm, Data Analysis, Machine Learning, Deep Learning, Computer Vision

EDUCATION

University of California San Diego *Sept.2017 - Present*
Bachelor of Science, Data Science *Major GPA* :3.9/4.0*
Cognitive Science Minor *(classes taken at UCSD)*

Shanghai Jiao Tong University (U-Michigan Joint Institute) *Sept.2018 - Jan.2019*
Exchange Student

RESEARCH

Undergraduate Computer Vision Researcher *Dec.2019 - Present*
- Working in **Vision lab** of Prof. Manmohan Chandraker at UCSD and with his Phd students
- Research Project: Mobilization of 3D inverse rendering problem & light source segmentation with Mask R-CNN

Deep Learning Research Engineer at Versa AI *Jul.2019 - Sept.2019*
- Versa is a startup allowing users to create visual art by AI technique, with 50 million users worldwide.
- Implemented a **light-weight** model inspired by the SOTA **retinaFace** that can detect 68 facial landmarks real-time on a **mobile phone**, with **1.6MB** model size, 8ms per frame on an iPhone 8 GPU.
- Achieved close accuracy rate with Dlib (100MB) in general, and higher accuracy under extreme head pose.
- Assisted the conversion of models of different frameworks to **CoreML** that can run on an iPhone.

PROJECTS/ COMPETITIONS

National CCF BDCI iQiYi Video Copyright Detection - Third Place *Oct.2019*
- Implemented an algorithm that can match the infringed video query with the refer copyrighted video, which are processed by mix, crop, decrease in quality, insertion in pattern and others.
- Extracted key frame and feature with **ffmpeg** and **ResNet 18**, and perform key match with **cosine similarity** and **ORB verification**
- Achieved 86% matching accuracy and can process million of frames in 1 second with limited storage.

Facial Recognition and Emotional Detection System *Mar.2019*
- Used a **MTCNN** to realize facial alignment and location detection and compared face by **FaceNet**
- Fine-tuned on Asian dataset trillionPairs to improve its performance on Asian faces.
- Created a local database and pre-stored the features for each face to achieve real time speed
- Utilized detected landmarks to predict emotion. Achieve accuracy of 89.43% with **logistic regression.**

DS3 Uber Datathon - (Business Analysis) - First place *Feb.2020*
- Developed a business analysis project of Uber service in San Francisco that are both **To B and To C**.
- Applied varies **time series** machine learning technique in processing real Uber customers datasets
- Received 30K scholarship from UCSD Rady school of management.

DS3 Microsoft Datathon - (Deep Learning) - First place *Apr.2019*
- Achieved an accuracy rate of 94.8% in classifying labeled images of 37 different kinds of category
- including 20 bred of dogs and 17 bred of cats with ensemble model of VGG 19 and Resnet 152

Biocom Datathon - (Machine Learning) - First place *Oct.2017*
- Predicted high schooler AP passing rate by their primary school performance
- Result was included in the **ICBDE (Education conference)**
- Paper published: Using Data Mining to Analyze CA High School AP Pass Fail Rates, Andrea Clark & **Jia Shi** & Yu Feng & ShaoQing Yi.(2017).