Fangchen Ye

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Education

Columbia University, Fu Foundation School of Engineering and Applied Science — New York, NY, US

- Program: MS in Computer Science — 05/2022

Sun Yat-sen University, School of Data and Computer Science — Guangzhou, Guangdong, CN

- Program: BE in Intelligence Science and Technology — 06/2020

Work Experiences

DiDi AI Labs — Beijing, CN

Algorithm Engineer — 07/2020-12/2020

- Conducted the research related to **Auto Machine Learning**, especially on **Neural Architecture Search** (NAS) and **DARTS** to help the team calculate the feasibility of each model ported to mobile device
- Reproduced different models with **Pytorch** and conducted performance benchmarking based on top-1 and top-5 accuracy on **ImageNet** or **Cifar-10**, in terms of parameter sizes, and training time of GPU hours
- Figured out new metrics like search space of width and depth, and types of blocks to develop the optimal model for mobile computing that improved 11% overall performance
- Summarized characteristics of each model and wrote an overview, providing the laboratory with a theoretical basis for research on the automatic driving in the future

Ping An Technology — Shenzhen, Guangdong, CN

Algorithm Engineer — 03/2021-06/2021

- Utilized pre-trained models of **VGG-Net** in **Tensorflow,** and fine-tuned models on dataset of **ImageNet**
- Pre-processed raw data with translation, rotation, and shearing transformation, and wrote **Shell** scripts to split the dataset and map labels to corresponding images that largely increase workflow efficiency by 30%.
- Added some special filters to the model and verified there was an improvement of 2% on top-1 accuracy

Research Experiences

University of British Columbia — Vancouver, BC, Canada

Research Assistant — 07/2019-09/2019

- Conducted segmentation of brain FLAIR and T1 scan images using neural network models of **DeepMedic**, **FCN** and **ResNet** with **Keras**, and marked the part of white matter hyperintensities (WMH)
- Pre-processed the same raw data by removing masks in different parts like skulls, and tested the effects that removal of skull masks improved **Recall** by 5% for **FCN** and **F1-score** by 10% for **DeepMedic**
- Implemented the models of **FCN** and **DeepMedic** on images of patients with size 224 * 224 to identify white matter hyperintensities, which largely saved preparation effort and increased diagnostic accuracy

Sun Yat-sen University, School of Data and Computer Science — Guangzhou, Guangdong, CN

Research Assistant — 09/2018-07/2019

- Developed a full-stack **Android** application using **React Native** and **MVC** pattern with **Javascript** and **Java** to insert banner/interstitial ads into application
- Designed the advertisement information broadcast tool via **Scala Designer**, **Scala Player**, and **RFID**
- Build a Facial Recognition Embedded Application with **Tensorflow** and **Keras** with 98% recognition accuracy rate, and largely increased lab efficiency and accelerate the research progress

Skills and Awards

Programming Languages: C/C++, Python, Matlab, Java, Javascript, Scala

Framework tools: Tensorflow, Pytorch, Keras

Development tools: Visual Studio, Clion, Docker, Git, Pycharm, Anaconda

Award: Second Prize Scholarship (awarded to top 10% students), First Prize in ACM School Competition