WENLAN WEI

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EDUCATION

Cornell Tech University, New York, NY   **Aug. 2021-Present**
Master of Engineering in Electronic and Computer Engineering
- **Noel Croucher Graduate Fellowship**
- Relevant Coursework: Applied Machine Learning, Interactive Device Design, Applied DSP and Communications

Wuhan University, Wuhan, China   **Sept. 2017-Jun. 2021**
Bachelor of Science in Electrical Engineering | **GPA: 3.7**
- Luojia Outstanding Exchange Scholarship **(2019, 0.1%)**
- Excellent National Project Issued by the Ministry of Education **(Top500 Nationwide)**

PUBLICATIONS / PATENTS

- Juan Du and **Wenlan Wei**, Lightweight Image Super-Resolution with Mobile Share-Source Network, IEEE Access, vol. 8, pp. 60008-60018, 2020.
- Towards Visual Question Answering on Pathology Images Xuehai He & Zhuo Cai, **Wenlan Wei**, ACL-IJCNLP, 2021.
- A Method to Construct Natural Scene Data Set Suitable for Computer Vision
- A Method for Image Super-resolution Reconstruction based on Lightweight Network

PROJECTS

Visual Question Answering Task on Medical Database   **University of California San Diego Mar 2020 – Jul 2020**
Build an opensource medical data set for Visual Question Answering task.
- Deployed **multi-modality models** to map vectors extracted from images and natural languages sentences. Balanced the modified all answers and applied state-of-the-art models on the **X-ray and Pathology** dataset.
- Explored influence of various kinds of **pretraining tasks**, including image to question, question to answers, mask words, image to answers by re-struct the connection
- Collected more than **20,000** images and captions from open-source libraries and books.

Garbage Classification System   **Imperial College London Jun – Sep 2019**
Leader of the team to build a project with Robotic arm and 3D Camera
- Designed the object detection models by using Faster RCNN to **extract image features** and oversaw the whole team's pace and work allocation.
- Use a lightweight visual network to recognize blue coins on the table which performs as the **global calibration to let** robotic arm and camera work cooperatively.
- Won the **Best Overall Prize** among all the teams.

Lightweight Super-resolution Reconstruction Network on Mobile
Leader of the team
- Designed and built a new **lightweight super-resolution reconstruction network** which reduced 90% parameters and saved 80% computing resources and retain the same reconstruction performance.
- Transfer the Pytorch model into **NCNN framework** to deploy it on the Android phones.
- Granted for financial support from **National Innovation and Entrepreneurship Training Program**.

EXPERIENCE

VMware, SDE Intern, Beijing   **Nov 2020 – Jul 2021**
- Design a system to manage and reveal the structure of the python programs to tackle the growing complexity problems by using **Graph Theory, Compiler and Code Bert Model**.
- Retrain Code Bert Model by modifing the input from plain code text to the **syntax tree embedded** to preserve the structure feature of code.
- Conduct experiments to find the best **sequence arrangement** and combination of **encoders and decoders**.
- Develop 3 models, Table Recognition, Latex Formula Recognition and Model to extract information from Zoom recording. Deploy models by using **Kubernetes and React** to provide online service.

Baidu AI Lab, RD, Beijing   **Aug 2020- Nov 2020**
- Developed and deployed a **scene classification network** service and the SKU boxes counting and inference service for businesses to estimate their advertising cost.
- Optimized the products retrieval system, use **Teacher-student network, Quantization, Weight Pruning and Distill.**

SKILLS

- Programming: C/C++, **Python**, **Pytorch** and Tensorflow
- Software: MATLAB, Multisim, Quartus, Simulink, OpenCV
- Backend: Docker, Linux OS, MongoDB