Wenhua Chen

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in https://linkedin.com/in/steven-chen-4769047b/
🖥 https://wenhua-chen.github.io/

Education

Newcastle University   Oct 2018
Master of Science in Computer Science   Newcastle upon Tyne, UK
- GPA: 3.78/4, graduated with First-class Distinction Grade

Sun Yat-sen University (top 10 in China)   Jun 2015
Bachelor of Engineering   Guangzhou, China

Experience

Yeahka Technology Co Ltd   Apr 2020 - Sep 2023
Senior Machine Learning Engineer, AI Tech Dept.   Shenzhen, China
- Training, optimizing and evaluating the performance of various models using Deep learning frameworks (like Keras and Pytorch), and presenting results to the internal stakeholders.
- Creating and delivering machine learning software and workflows that meet creative or technical objectives, e.g., Facial anti-fraud.
- Quickly learning about new technologies and techniques, and evaluating the feasibility and impact of implementing them into the product strategy, e.g., Target tracking and behavior recognition.

Innovation Intelligent Technology Co Ltd   Jun 2019 - Jan 2020
Machine Learning Engineer, R&D Dept.   Shanghai, China
- Pre-processing and cleaning large datasets using libraries like NumPy and Pandas, to make them suitable for machine learning models.
- Training and deploying machine learning models on multi-GPU AWS cloud environments.

Projects

Facial Anti-fraud - *Project Leader*
- Built a dataset of more than 1.9 million images containing real faces and fake faces in screens, photos, etc., the dataset was created for model training.
- Trained an Image Classification Model with Pytorch, which is able to recognize fake face attacks in an image by features such as moiré and image material.
- Developed an Android SDK in C++ and Java, which call the camera, perform real-time computation to recognize head movements, such as nodding, by facial keypoints; using Git for version control.
- Developed a backend service in Python, which is a Flask application, uses Redis for temporary caching, Gunicorn for application deployment and load balancing, Supervisor for process monitoring.

AI-assisted Medical Diagnosis - *Project Member*
- Trained MaskRCNN for Image Segmentation to compute spine curvature angle; trained FasterRCNN for Object Detection to find lung nodules and other disease features.
- Deployed the service on AWS cloud servers; achieved 97% in recall and 72% in precision of the lung nodules; improved accuracy of the scoliosis to 99%.

Video Generation - *Project Leader*
- Developed a service that converts images into videos with AI generated copywriting and voiceovers.
- Trained an Image Super-resolution model; built a database of 96,000+ articles and images, categorized by K-means clustering and keywords.
- Designed prompts for GPT-4 to generate copywriting in the desired style and convert it to voiceover.
- Deployed the service on Linux servers, using Docker as container, FFmpeg for video generation.

Patents & Skills

- **Patents**: CN115225962A, CN114764897A, CN113297960A (associated with Video Generation, Behavior Recognition, and Facial Anti-fraud respectively)
- **Languages**: Python, Java, C/C++, MySQL, Shell, HTML/CSS, JavaScript
- **Technologies**: Linux, Git, VSCode, Pytorch, OpenCV, Numpy, Flask, Scikit-learn