Heiru **Wu**

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Skills

Programming languages: Proficient in Python, Previously used Java, C++
Tools: Pytorch, TensorRT, XGBoost, scikit-learn, OpenCV, Git, Luigi, AWS, Android

Experience

Aegis Technology
Phoenix, AZ, USA

Founding Senior Engineer — *Mar 2022 – Present*

- Research and design Machine Learning solutions from scratch for fire hazard detection in large scale semiconductor fabrication plant.
- Quickly deploy Pytorch PoC system in short timeframe in response to changing requirements, and verify the validity of the solutions.

Careplus.ai
Hsinchu, Taiwan

Chief Technology Officer — *Feb 2021 – May 2022*

- Designed and developed a Machine Learning enabled home-caring system which introduced intelligent ambient awareness powered by our modularized inference components, delivering features that prevents 90% or more of the accidents and continuously adapting to current environment and new behaviors.
- Developed custom MLOps framework for automation pipeline to perform self-annotation, active-learning, performance evaluation and model deployment to achieve continous learning and cut down 90% of the human resources and maintain 99% of system availability and reliability.

Prof. Min Sun, Tsing Hua University
Hsinchu, Taiwan

Research Assistant — *July 2020 – Feb 2021*

- Researched and developed modularized Machine Learning inference components including object detection, object tracking, pose-estimation, action-recognition and person re-identification, which can speed up task-specific domain adaptation up to 80% and cut down 50% of development time.

Industrial Technology Research Institute
Hsinchu, Taiwan

Software Engineer — *July 2019 – July 2020*

- Customized SOTA deep learning backbone networks including Mobilenet, Darknet-53 and CSPNet, combined with SSD and Yolov3/v4 detection network and object tracking algorithms, deployed an object detection system for self-driving vehicles with above 90% intra-class averaged mAP and f1 score.

Prof. Sanjib Sur, University of South Carolina
Columbia, SC, USA

Research Assistant — *Sep 2018 – May 2019*

- Researched and designed a DNN steering angle prediction model built with Tensorflow framework, we introduced novel convolutional blocks to learn and extract additional high dimensional features with 20% faster model forward time and 10% higher mAP over benchmark dataset.

California Partners for Advanced Transportation Technology
Richmond, CA, USA

Research Intern — *June 2018 – Sep 2018*

- Developed tools to help construct 3D pointcloud vector map for autonomous vehicle's SLAM algorithm and route planning while utilizing PPP GPS to correct the margin of error to achieve 90% accuracy.

Industrial Technology Research Institute
Hsinchu, Taiwan

Software Engineer — *Feb 2017 – Aug 2017*

- Designed algorithms to utilize single Kinect camera for 3D human model reconstruction and contour detection for 2D-to-3D scaling estimation, process 3 times faster than conventional system.

Education

University of South Carolina
Columbia, SC, USA

M.Sc. in Software Engineering — *Aug 2017 – May 2019*

GPA: 3.9

Chang Gung Unversity
Taoyuan, Taiwan

B.Sc. in Electrical Engineering — *Sep 2011 – Jan 2016*

GPA: 3.4