HONGZHUO CHEN

University of California, Irvine
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EDUCATION

- **University of California, Irvine (UCI), U.S.** Sep. 2023-Present
  Master of Science in Networked Systems, GPA: 3.33/4.0
- **University of California, Irvine (UCI), U.S.** Sep. 2022-Jun. 2023
  Exchange Student GPA: 3.86, GPA for Undergraduate/Graduate Courses: 3.93
- **Southeast University (SEU), China** Sep. 2019-Jun. 2023
  Bachelor of Engineering in Computer Science & Technology, GPA: 3.33/4.00 (83.34/100)

SKILLS

Programming Languages	C/C++, Python, Java, MATLAB
Software/Platforms	PyTorch, Anaconda, TensorFlow, Linux, Git

PUBLICATION

1. Hao Chen, Yongliang Wu, Zichao Chen, **Hongzhuo Chen** (2022), "Spatial-Aware Multi-Modal Contrastive Learning for Dense Prediction", In submission

RESEARCH

Automatic Music Transcription based on Deep Learning
***Developer**, Advisor: Dr. Xiao Dong, SEU* *Jan. 2023-Jun. 2023*

· Designed a Diffusion-based model (DiffRoll) for transcripting piano music to MIDI files
· Implemented a Transformer model for transcripting multi-instrument music to MIDI-like sequences
· Compared F1 scores of different model's performance on MAESTRO and MAPS dataset

Spatial-Aware Multi-Modal Contrastive Learning for Dense Prediction
***Developer / Core Member of 3.** Advisor: Prof. Hao Chen, SEU* *Nov. 2021 - Jul. 2022*

· Proposed a spatial-aware multi-modal contrastive learning framework for the pre-training of multi-modal dense prediction
· Studied the contribution of intra-modal and inter-modal contrastive constraints for spatial-aligned multi-modal data
· Outperformed the traditional contrastive learning benchmark, MoCo, on RGB-D salient object detection and semantic segmentation

A City-Wide Crowdsourcing Delivery System with Reinforcement Learning
***Developer/Team leader of 5**. Advisor: Prof. Shuai Wang, SEU* *Nov. 2020-Nov. 2021*

· Applied reinforcement learning (RL) to order dispatching in city-wide express
· Designed a profit model with consideration of earnings (from customer payment), cost (payments to participating passengers), and timeout compensation
· Designed an action filter based on the estimated time of arrival (ETA) to eliminate the invalid actions to improve the package routing performance

CAPSTONE PROJECT

Autonomous Car With LiDAR and OpenCV
Developer / Core Member of 5. Advisor: Prof. Ian G. Harris, UCI *Sep. 2022 - Mar. 2023*

· Built an autonomous car using a Raspberry Pi to control itself, and LiDAR detect obstacles
· Used OpenCV to detect lanes so that the car can move in lane straightly, or turn left/right

A CNN Based Smart Farm Image Classification/Prediction System
Developer / Leader of 3. Advisor: Prof. Gang Li, Deakin University *Nov. 2021 - Dec.2021*

· Used CNN in a smart farm image analysis system, which can classify a strawberry's ripeness, and estimate its acidity and taste (valued by Brix) based on its image

Video Caption
Developer / Core Member of 5. Advisor: Prof. Jiasong Wu, SEU *Sep. 2021 - Dec.2021*

· Built a video description model based on S2VT (Sequence to Sequence Video to Text) to output a natural language description for the input of videos

AI-Based Brain Tumor Classification and Segmentation
Developer / Core member of 8. *Feb. 2021*

· Developed a CNN model that detects and segments gliomas in brain tumor magnetic resonance (MR) images

EMPLOYMENT

University of California Irvine Irvine, CA, USA
Reader *Sept. 2023-Mar. 2024*

· Served as reader of EECS 70B *Network Analysis II* & EECS 145 *Electrical Engineering Analysis*
· Designed the grading criterias for the assignments
· Graded students' assignments

Zhongke Zhiwei Technology Co., Ltd. Beijing, China
Machine Learning R&D Intern *Jul 2022-Aug 2022*

· Compared different face recognition models' performance including DeepFace, DeepID3, FaceNet on provided dataset
· Developed face recognition models