Yi Zhang

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Profile

Enthusiastic and research-driven graduate with strong interests in Computer Vision and Natural Language Processing. Experienced in developing deep learning models for image recognition, object detection and LLM post train through multiple academic and personal projects.Proficient in Python, PyTorch and OpenCV with solid problem-solving skills and a strong foundation in AI.

Projects

Do LLMs Think Like the Brain? Neural Predictivity and Anatomical Alignment in Narrative Comprehension Feb 2025- May 2025

skills: Text data processing, LLM fine-tuning, embedding analysis

- Fine-tuned large language models (LLMs) to align with cognitive tasks related to narrative comprehension.
- Extracted embeddings from 16 different models and evaluated inter-model similarities using Centered Kernel Alignment (CKA) metrics.

A Multimodal Assessment Model and Intervention Study of Student Participation in Collaborative Learning Oct 2022 – Sep 2024

skills : video-based classification, long-tail data

- Collected and labeled offline classroom data (video, audio) using custom-developed annotation tools; performed hardware calibration for camera systems.
- Developed facial detection and recognition pipelines using YOLOv8 and InsightFace.
- Proposed a spatial-temporal emotion monitoring framework incorporating GS convolution-based multi-scale features and a frame sequence predictor, achieving 67.5% accuracy on the DFEW dataset.

Third place in the iFLYTEK Algorithm Challenge on Autonomous Driving and Driver Fatigue Detection May 2022- Jun 2022

skills : Image-based Binary classification, Facial detection

- Analyzed and augmented training data to address class imbalance and improve model robustness.
- Trained EfficientNetB7 model with Progressive Self-Knowledge Distillation (PS-KD) to enhance generalization.
- Applied Test-Time Augmentation (TTA) for inference, achieving a final accuracy of 99.967%.

Publication

APSIPA ASC 2024	Accepted	**MTFNet: Multi-Scale Transformer Framework for Robust Emotion Monitoring in Group Learning Settings**
EMNLP 2025 Main	Accepted	**M-ABSA: A Multilingual Dataset for Aspect-Based Sentiment Analysis**
AAAI 2026	Accepted	**Do Large Language Models Think Like the Brain? Sentence-Level Evidence from fMRI and Hierarchical Embeddings**
ICASSP 2026	Submitted	**EVALUATING PERSONA-BASED STORYTELLING IN SPEECH LANGUAGE MODELS**

Experience

Research Assistant, Social Data Science and AI Lab, LMU Feb 2025 – Present

- Preprocessed large-scale language and social media data for downstream NLP tasks.
- Fine-tuned large language models (LLMs) to align with cognitive and behavioral analysis objectives.
- Contributed to academic paper writing, including experiment design, result reporting, and formatting.

Algorithm Engineer Intern, ATA Assessment Technology (Beijing), China Jun 2023 – Aug 2023

- Collected and processed over 100K human detection samples and 1K keypoint samples in real-world dance scenarios.
- Compared performance of multiple models (YOLOv8, PP-Detection, Mediapipe, TinyPose) on custom datasets for both human detection and pose estimation.
- Trained and fine-tuned models using PP-Detection and TinyPose, improving human detection accuracy by 3% and keypoint estimation accuracy by 10%, while eliminating redundant detection errors.

Education

Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) Oct 2024 - Present
Data Science - Master of Science

- **Main Area:** Machine Learning and Artificial Intelligence
- **Relevant Coursework:** Artificial Intelligence I, Pattern Recognition

BeiJing Normal University, ZhuHai (BNUZ) Sep 2020 – Jun 2024
Computer Science and Technology - B.Eng

- Final grade : 87/100(Top 5%)
- **Main focus:** Computer Vision, Emotion recognition
- **Relevant Coursework:** Operating System, Data structure and algorithm.etc.