Wensi Ai

va0817@g.ucla.edu · vince-ai.github.io · 424-402-7280

Research interests

Embodied AI, Human-centered AI, Human-Agent Interaction, Motion Sequence Analysis

Education

2019 – 2022

University of California, Los Angeles (UCLA) – Los Angelges, CA
B.S. in Computer Science, Applied Mathematics. *GPA: 3.93.*

Selected coursework

- *Computer Science*: Data science fundamentals, Deep learning in computer vision, Computer architecture, Software engineering, Algorithms and Complexity, Computer networks, Operating system principles.
- *Mathematics*: Linear Algebra, Real & complex analysis, Numerical analysis, Discrete mathematics, System of ODEs, Techniques of scientific computing.
- *Statistics*: Methods of machine learning, Probabilistic decision making, Linear Models.

Research experience

2022 – Present

Stanford Vision and Learning Lab (SVL)
Research Assistant | Mentors: Jiajun Wu.
Research Interest: Embodied AI, Virtual Reality, Human Cognition.

- Integrated VR into BEHAVIOR-1K benchmark for task verification and data collection.
- Constructed computational vision models for 6 visual impairment in VR.
- Conducted experiment to measure visual impairment's impact on human's performance.

2019 - 2022

Center for Vision, Cognition, Learning and Autonomy (VCLA)
Research Assistant | Mentors: Ying Nian Wu, Song-Chun Zhu.
Research Interest: Embodied AI, Character Animation, Social Affordance.

- Integrated facial expression as emotions in triangular human character animation sampling.
- Completed GenMotion library with documentation and tutorial notebooks support.
- Built scene-building and data collection extension in Omniverse for ARNOLD benchmark.

Industry experience

2021   **Metabit Trading** – Beijing, China
Engineer Intern | Mentors: Liao Ni.

- Used Apache Airflow to automate generation and processing of daily stock data.
- Optimized data generation workflows and gained 30x speedup in generation time
- Redesigned data generation workflow to remove local file dependencies

Honors and awards

2022   Latin Honor of Magna Cum Laude, UCLA School of Engineering

2022   Department Honors, UCLA Mathematics

2022   Top 5, CodeSprint LA Competitive Programming Contest

2021   Top 4, CodeSprint LA Competitive Programming Contest

2019 - 2022   Dean's Honor List

Publications

2022   **ARNOLD: A Benchmark for Language-Grounded Task Learning with Continuous States in Realistic Scenes**
Ran Gong*, Yizhou Zhao*, Xiaofeng Gao, Jiangyong Huang, Qingyang Wu, Wensi Ai, Baoxiong Jia, Zhou Ziheng, Song-Chun Zhu, Siyuan Huang.
CoRL 2022 LangRob Spotlight.

2022   **VRKitchen2.0-IndoorKit: A Tutorial for Augmented Indoor Scene Building in Omniverse**
Yizhou Zhao*, Steven Gong*, Xiaofeng Gao, Wensi Ai, Song-Chun Zhu
Overall Winner, Nvidia ExtendOmniverse 2022 Contest.

2021   **GenMotion: Data-driven Motion Generators for Real-time Animation Synthesis**
Yizhou Zhao, Wensi Ai, Liang Qiu, Pan Lu, Feng Shi, Tian Han, Song-Chun Zhu.
arxiv preprint.

2021   **Triangular Character Animation Sampling with Motion, Emotion, and Relation**
Yizhou Zhao, Liang Qiu, Wensi Ai, Pan Lu, Song-Chun Zhu.
arxiv preprint.

2020   **Vertical-Horizontal Structured Attention for Generating Music with Chords**
Yizhou Zhao, Liang Qiu, Wensi Ai, Feng Shi, Song-Chun Zhu.
arxiv preprint.

Projects

2022   **Colorizer** | *Deep learning developer*

- Constructed a collection of 4 deep learning models for video colorization.
- Designed unified interface for model loading and testing with popular video datasets.
- Set up an interactive web demo using streamlit that facilitates model comparison.

2020   **eXchange** | *Front-end developer*

- Corporated with 3 students to develop an online study resources exchange website.
- Designed and implemented 3 main interactive UI and 5 components using React.JS.
- Implemented data management and client-server interactions using React Hooks.

2017 - 2019   **Catching Fire** | *Tech lead*

- Developed a VR hazard evacuation training game via Unity3D and HTC Vive.
- Simulated fire spread based on Unity's particle, NavMesh, and collision System.
- Utilized SteamVR and VRTK for user interaction with the virtual environment.

Technical skills

Programming languages

Python, C/C++, Javascript, CSS, HTML

Software & Frameworks

LaTeX, Git, Autodesk Maya, Blender, Unity3D, Nvidia Omniverse
PyTorch, Sklearn, Pandas, Numpy, React.js

Languages

English (fluent), Mandarin (fluent)