

Jane Yang

San Diego, CA
j7yang@ucsd.edu
[Google Scholar](#)

Education

Ph.D. in Experimental Psychology <i>UC San Diego</i> Advisor: Bria Long	2024–present
B.S. in Cognitive Science <i>UC San Diego</i> Specialized in Machine Learning & Neural Computation Minor: Computer Science	2018–2022

Research Experience

Graduate Student <i>UC San Diego Visual Learning Lab</i> <i>Principal Investigator: Bria Long</i>	2024–present
<ul style="list-style-type: none">Object Detection in Egocentric Video: Implemented YOLOE for automated object detection in 868+ hours of infant egocentric video data from BabyView dataset (31 families)Cross-Dataset Representational Analysis: Extracted CLIP and DINOv2/v3 embeddings from object images in BabyView vs. THINGS datasets to quantify distributional differences between infant visual experience and contemporary computer vision datasetsVisual-Linguistic Alignment Analysis: Quantified visual-linguistic alignment in naturalistic infant egocentric video using CLIP modelExperimental Design: Designed and conducted adult eye-tracking experiments investigating object interaction strategies based on information collection optimality	
Lab Technician <i>UT Austin Developing Intelligence Lab</i> <i>Principal Investigator: Chen Yu</i>	2022–2024

<ul style="list-style-type: none">Naturalistic Data Collection: Conducted multimodal data collection with 12-36 month infants and caregivers using head-mounted eye trackers, third-person cameras, IMUs, and lapel microphones in participants' homesMulti-sensor Data Fusion: Built Python pipelines to synchronize and process multimodal sensor streams from multiple recording devicesPose Estimation: Deployed MediaPipe and OpenPose for hand and face detection in egocentric video streamsObject Detection: Fine-tuned YOLOv8 for object detection in infant/parent egocentric viewsSpeech Processing: Integrated WhisperX for automated transcription and speaker diarizationMotion Tracking: Generated skeletal motion tracking data for dyads' in-lab toy playing sessions3D Modeling: Created 3D experimental environments and stimuli using Unity, Blender, and Matterport 3D camera	
---	--

Research Assistant <i>UC San Diego Cognitive Tools Lab</i> <i>Principal Investigator: Judith Fan</i>	2021–2022
<ul style="list-style-type: none">Interactive Experiment Development: Built web-based experiments for studying intuitive physics	

- knowledge communication using JavaScript and Node.js
- **Natural Language Analysis:** Processed and analyzed 480+ participant responses using NLP methods and manual annotation

Publications

Peer-reviewed Conference Papers

Yang, J., Sepuri, T., Tan, A., Frank, M., Long, B. (2025). Quantifying infants' everyday experiences with objects in a large corpus of egocentric videos. *Cognitive Computational Neuroscience*. [\[Link\]](#)

Yang, J., Zhang, Y., Yu, C. (2024). Learning semantic knowledge based on infant real-time attention and parent in-situ speech. *Cognitive Science Society*. [\[Link\]](#)

Yang, J., Smith, L., Crandall, D., Yu, C. (2023). Using manual actions to create visual saliency: an outside-in solution to sustained attention and joint attention. *Cognitive Science Society*. [\[Link\]](#)

Wang, H., **Yang, J.**, Tamari, R., Fan, J. (2022). Communicating understanding of physical dynamics in natural language. *Cognitive Science Society*. [\[Link\]](#)

Preprints

Tan, A.W.M.*, **Yang, J.***, Sepuri, T., Aw, K.L., Sparks, R.Z., Yin, Z., Marchman, V.A., Frank, M.C., Long, B. (2025). Assessing the alignment between infants' visual and linguistic experience using multimodal language models. [\[Link\]](#)

Yu, Z., Aubret, A., Raabe, M.C., **Yang, J.**, Yu, C., Triesch, J. (2025). Active Gaze Behavior Boosts Self-Supervised Object Learning. *Submitted*. [\[Link\]](#)

Technical Skills

Programming: Python, C++, MATLAB, R, JavaScript, Java

Machine Learning: PyTorch, TensorFlow, HuggingFace

Data Processing: Multi-sensor fusion, video processing (FFMPEG)

Development Tools: Git, MongoDB, Node.js, Unity, Blender, AutoCAD

NLP: spaCy, NLTK, Whisper

Awards & Fellowships

Anderson Travel & Research Award, UC San Diego	2025
Norman Henry Anderson Fellowship, UC San Diego	2024
Triton Research and Experiential Learning Scholars Award, UC San Diego	2022
Distinction in Cognitive Science, UC San Diego	2022
Provost's Honors, UC San Diego	2019–2022
HackSC 1st Place, USC	2019

Research Interests

Egocentric vision, visual representation learning, and perception and interaction in naturalistic environments