

Jinbin Huang

PhD Candidate in Computer Science

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Summary

PhD candidate in Computer Science focusing on Generative AI, Explainable AI and Human Computer Interaction. Seeking opportunities to leverage expertise to develop GenAI applications in industry.

Education

- Aug 2019 – **Ph.D. in Computer Science**, *Arizona State University*, Tempe, AZ
- Present
- Thesis: "Understand AI and Go Beyond" (tentative title). Advisor: Dr. Chris Bryan
 - Research focuses on novel interactive systems to for explaining, auditing and improving AI models.
- 2014 – 2018 **B.S. in Mathematics**, *Sun Yat-Sen University*, Guangzhou, China

Work Experience

- May – Aug **Research Intern**, *Epsilon Data Management*, Austin, TX
- 2023
- Developed interpretable audience profiling algorithm and interactive binary tree visualization for Epsilon's DIME analytics system, improving targeting accuracy by **20%** and insight discovery speed by **40%**.
- May – Aug **Research Intern**, *Bosch USA*, Sunnyvale, CA
- 2022
- Developed InterVLS, an interactive system that distills CLIP into visual-concept linear surrogates for downstream tasks, enabling interactive no-code fine-tuning, reducing development time by **90%**.
- May – Aug **Research Intern**, *OPPO U.S. Research Center*, Palo Alto, CA
- 2021
- Created SPARVIS, an analytics system combining smartphones and AR; resulted in patent filing.
 - Designed and ran study on AR gesture interaction; findings informed UI shipped in OPPO AR glasses.
 - Developed AR object manipulation on Unity for OPPO glasses, enabling **20%** more efficient interaction.

Publications

- **Huang, J.**, Chen, C., Mishra, A., Kwon, B., Liu, Z., Bryan, C. (2024). ASAP: Analyzing and Summarizing AI-generated Image Patterns at Scale. Under review in *IEEE VIS 2024 Conference*.
- **Huang, J.**, Chen, C., Mishra, A., Kwon, B., Liu, Z., Bryan, C. (2024). On CLIP's Capability of Recognizing Fake Images: What is CLIP looking at? In *ACM CHI 2024 Conference, Generative AI (GenAI) Workshop*.
- Kintscher, M., **Huang, J.**, Arunkumar, A., Amersh, A., Bryan, C. (2023). Measuring and Comparing Collaborative Visualization Behaviors in Desktop and Augmented Reality Environments. In *2023 ACM Symposium on Virtual Reality Software and Technology* (pp. 1-11).
- **Huang, J.**, He, W., Gou, L., Ren, L., Bryan, C. (2023). InterVLS: Interactive Model Understanding and Improvement with Vision-Language Surrogates. *arXiv preprint arXiv:2311.03547*.
- Mishra, A., Soni, U., Arunkumar, A., **Huang, J.**, Kwon, B., Bryan, C. (2023). PromptAid: Prompt Exploration, Perturbation, Testing and Iteration using Visual Analytics for Large Language Models. *arXiv preprint arXiv:2304.01964*.
- **Huang, J.**, Mishra, A., Kwon, B., Bryan, C. (2022). ConceptExplainer: Interactive Explanation for Deep Neural Networks from a Concept Perspective. In *2022 IEEE Transactions on Visualization and Computer Graphics* (pp. 831-841).
- **Huang, J.**, Liang, S., Xiong, Q., Gao, Y., Mei, C., Xu, Y., Bryan, C. (2022). SPARVIS: Combining Smartphone and Augmented Reality for Visual Data Analytics. In *IEEE ISMAR 2022 Conference, Visual Analytics in Immersive Environments (VAinIE) Workshop*.
- Mishra, A., Soni, U., **Huang, J.**, Bryan, C. (2022). Why? Why not? When? Visual Explanations of Agent Behavior in Reinforcement Learning. In *2022 IEEE Pacific Visualization Symposium (PacificVis)* (pp. 111-120). IEEE.
- **Huang, J.**, Plasencia, J., Bardo, D., Rubert, N., Ellsworth, E., Zangwill, S., Bryan, C. (2021). Phoenix Virtual Heart: A Hybrid VR-Desktop Visualization System for Cardiac Surgery Planning and Education. In *2021 IEEE Workshop on Visual Analytics (VAHC)* (pp. 36-40). IEEE.

Skills

Programming: Python, JavaScript, TypeScript, C#; **ML/DL:** PyTorch, TensorFlow, Prompt Engineering; **UI:** Unity, React.js, d3.js, HTML/CSS; **Cloud:** Google Cloud, AWS