

# Jinbin Huang

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## SUMMARY

AI Researcher with 5+ years of experience in **agentic AI, Explainable AI (XAI), and Human-Computer Interaction**. Architected and deployed novel agentic frameworks that demonstrably **improve user workflow efficiency by over 40%**. Expertise in the full research-to-product lifecycle, from foundational model analysis (publications in top-tier venues including *IEEE TVCG*, *ACM CHI*) to building and scaling end-to-end AI applications. Passionate about creating human-in-the-loop AI systems.

## EDUCATION

### Ph.D. Computer Science

Aug 2019 - Dec 2024

Arizona State University, Tempe, AZ

Thesis: *Explain, Simplify, and Integrate Artificial Intelligence with Visual Analytics*

Chair: Chris Bryan

Committee: Dr. Bum Chul Kwon, Dr. Ross Maciejewski, Dr. Hasti Seifi

### B.S. Mathematics

Aug 2014 - Jun 2018

Sun Yat-Sen University

## PROFESSIONAL EXPERIENCE

### Lead Research Scientist

Epsilon Data Management

Oct 2024 - Present

- **Agentic AI Framework:** Researched, architected, and deployed an agentic AI framework that transformed a complex UI-based visualization tool into a chat-based workflow. This initiative **reduced time-to-insight for enterprise clients by an estimated 40%** and directly led to a **10% increase in user engagement** with the analytics platform.
- **RAG-Powered Documentation Q&A:** Developed and deployed a Retrieval-Augmented Generation (RAG) system over the company's extensive knowledge base of technical documentation and case studies. This enabled conversational, natural language querying for users, significantly streamlining their access to complex digital advertising information.
- **Headless API Refactoring:** Co-led the 'headless' refactoring of the core analytics engine into a modular API. This strategy **unblocked new product integration pathways** and was foundational to a roadmap aimed at **increasing adoption by 25%** across new user segments.

### Research Intern

May 2022 - Aug 2022

Bosch Research USA

Sunnyvale, CA

- Developed InterVLS, a novel visual analytics system for enhancing Vision-Language Model (VLM) interpretability. Designed a methodology to distill complex CLIP embeddings into interactive, human-interpretable visual-concept surrogates, enabling researchers to diagnose model behavior and guide fine-tuning, which resulted in a key publication.

### Research Intern

May 2021 - Aug 2021

OPPO U.S. Research Center

Palo Alto, CA

- Engineered and patented the SPARVIS system, a novel paradigm for immersive data analytics that integrates smartphone sensors with Augmented Reality. Developed complex 3D interaction techniques in Unity, achieving a **20% improvement in data exploration efficiency** over traditional interfaces.

## PROJECTS

### Kangzhidao

Co-Founder & AI Engineer

- Developed and launched an AI-powered physical therapy co-pilot, scaling to **450+ MAU in 1 week** by architecting a full analytics pipeline to analyze user-agent interaction patterns and drive rapid model and UX iterations.

### TalkNPaste (iOS Application)

Independent Developer

- Independently developed and launched an iOS productivity app for real-time audio transcription with system-wide paste integration, leveraging LLM-based code generation tools to explore rapid, AI-assisted development workflows.

## SELECTED PUBLICATIONS

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- **J. Huang**, A. Mishra, B. C. Kwon, C. Bryan, “ConceptExplainer: Interactive Explanation for Deep Neural Networks from a Concept Perspective,” *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2022.
- A. Mishra, B. Danzy, U. Soni, A. Arunkumar, **J. Huang**, C. Bryan, “PromptAid: Visual Prompt Exploration, Perturbation, Testing and Iteration for Large Language Models,” *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2025.
- **J. Huang**, C. Chen, A. Mishra, B. C. Kwon, Z. Liu, C. Bryan, “On CLIP’s Capability of Recognizing Fake Images: What is CLIP Looking At?,” *ACM CHI Conference on Human Factors in Computing Systems (CHI)*, 2024.
- **J. Huang**, S. Liang, Q. Xiong, Y. Gao, C. Mei, Y. Xu, C. Bryan, “SPARVIS: Combining Smartphone and Augmented Reality for Visual Data Analytics,” *IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2022.

## ACADEMIC SERVICE & MENTORING

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- **Peer Reviewer:** IEEE Transactions on Visualization and Computer Graphics (TVCG), ACM Conference on Human Factors in Computing Systems (CHI), IEEE VIS Conference, IEEE PacificVIS Conference
- **Undergraduate Project Mentor:** Guided multiple undergraduate student teams at Arizona State University on research projects related to AI and visual analytics.

## TECHNICAL SKILLS

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**Programming:** Python, SQL, JavaScript, TypeScript, C#, Bash

**AI / ML:** PyTorch, TensorFlow, Scikit-learn

**Data & MLOps:** Docker, PostgreSQL, Google Cloud Platform (GCP)

**Frontend & Visualization:** React, Next.js, D3.js, HTML/CSS, Tailwind CSS