

## Education Background

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**George Mason University (CSRanking Top30, HCI Top20)** | Fairfax, VA, USA Aug.2025 - Present  
*Ph.D. in Computer Science | Focus: Human-Computer Interaction, Interactive Intelligence* GPA: 4.0/4.0  
**Early-stage investment offer holder from Prof. Zexiang Li's Shenzhen InnoX Academy.**  
Advisor: Prof. Zhicong Lu (ACM SIGCHI Asia Chair), prev @HKCityU.

**Purdue University Main Campus (QS Top100, US News Top50)** | West Lafayette, IN, USA Aug.2022 - Jan.2025  
*Bachelor of Science with Distinction | Computer and Information Technology, Minor in Communication* GPA: 3.96/4.0  
Research Focus: Human-AI Collaboration, Advisor: Prof. Yung-hsiang Lu (IEEE Fellow / ACM Distinguished Scientist).  
*Received Grad admission scholarships from **George Mason, Notre Dame, Uni Of Rochester, HKUST**, etc.*

## Past Experiences

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**MiraclePlus (Formerly YC China)** | Rotational Intern, Mentor: Jack Jin (*Early supporter of Kimi Moonshot.ai*) 2025.8 - 2026.3  
*Systematically observed early to mature-stage AI entrepreneurs and research teams, abstracted structural disconnects in Research-Product-Market Fit (RPMF), and consolidated them into MiraclePlus's internal strategic knowledge system.*

- Extensively interacted with Researcher Founders and Research Scientists. Identified frontier signals and non-consensus trends in the AI field through systematic interviews and case comparisons, distilling them into internal strategic insights. Mapped out typical patterns and breaking points of research-driven startups within the RPMF pipeline, providing a structured analysis framework to support the commercialization of researchers' technologies.
- Conducted qualitative analysis and internal reviews of interview and communication materials. Consolidated patterned challenges (technology implementation, positioning decisions, iteration pacing, talent structure, etc.) into executable action strategies. Supported team in providing targeted early-stage assistance to RFs across events, mentoring, and strategic levels.
- Conducted in-depth industry research on Agentic models / world models / AI agents and delivered internal closed-door sharings. Participated in agenda design for MiraclePlus's "Latent Space" events, combining the technical roadmaps of academic guests (e.g., Prof. Cewu Lu) with practical industry challenges to curate core discussion themes on Embodied AI and AI agents.

**Flowtica.AI (Intelligent AI Pen)** | Product Manager, *2026 AI Best Innovation Award* 2025.3 - 2025.7  
*Addressed the disorganized context and instability of secondary interactions in Human-AI Interaction caused by the limitation of a single temporal dimension. Proposed an AI-Native workspace paradigm that expands semantic dimensions through direct user manipulation, fundamentally improving the linearity and discreteness of interactions.*

- Collaborated with the CEO to lead the construction of the AI-Native workspace paradigm. Starting from the contradictions of linear and discrete voice Agents on a timeline, context organization limits, and ecosystem expansion constraints, formulated the overall roadmap, and completed three conceptual prototypes, corresponding PRDs, and long-term strategic documentation.
- During the pre-research phase, comprehensively analyzed structural insights and bottlenecks of current models across three dimensions: voice interaction scenarios, context structure, and AI-Native ecosystem evolution. Formulated core concepts regarding the structurization of linear content, the discreteness of context at the interaction and user levels, and ecosystem building strategies focused on "internal reuse and external sharing."
- Designed three conceptual prototypes based on the paradigm formed during pre-research to solve post-generation interaction and context organization issues via a "Human-AI Coexistent Workspace": The Web end uses a canvas structure to explicitly visualize the semantic and spatial attributes of interactions, serving as the entry point for user intent and Agent behavior; the Mobile end uses a capsule list to unify and compress the canvas structure; the long-term vision supports context management, knowledge bases, and user model construction via a semantic coordinate system.

**Purdue University AIM Lab** | Research Project Manager, *media covered by IEEE Spectrum* 2023.10 - 2024.11  
*As the research group lead, participated in the entire lifecycle including grant application (\$990K), user research, and technical implementation, managing a diverse international team. Explored how AI can provide productivity support under extreme constraints, innovating the Vibe Coding paradigm prior to Cursor, and supporting musicians' AI interactions through system.*

- Participated in the project proposal, successfully securing a \$990K NSF grant, and led the advancement of key deliverables post-approval. Coordinated a team of 30+ members as the Research Project Manager, driving the full lifecycle from workflow analysis and data collection to system iteration. Aimed at practical research application, significantly improving the AI collaboration experience for musicians and visually impaired groups in real-world environments.
- In Mus2Vid, led the complete pipeline from user research to system design: Identified realistic style images as the bottleneck for musical synesthesia expression through A/B testing and cross-validation with N=88 users. Consequently, proposed a new "storytelling" dimension, designed and fine-tuned a synesthetic multimodal LLM generation pipeline from music to narrative to video. Introduced a multi-agent autoregressive generation storyboard system, ultimately transforming music visualization from

"visual descriptions of realistic images" to narrative-driven, continuous multimodal synesthesia.

- In the A1lyShape project, based on insights into the "high mental burden" faced by visually impaired groups regarding fine-grained manipulation, model perception, and version comparison, utilized their sole reliable modality—"natural language"—to unify the workflow using Vibe Coding (half a year prior to AI programming Agents like Cursor). Replaced direct mouse clicking and zooming with a hierarchical tree for fine-grained control over the provided context. By mapping current interactions to interaction history and the global model, isolated operation contexts were eliminated, vastly reducing users' memory burden.

**Shine Resume** | No.4 Founding Member, Multi-role without fixed title

2023.4 - 2023.8

*Drove the idea from 0 to 1, successfully helped the team secure funding, and exited to return to studies after product launch. In scenarios with extremely weak user agency, shifted the responsibility from "requiring users to provide structured input" to "AI actively constructing and completing context," reconstructing the resume generation in an AI-first, context-centric pipeline.*

- Targeting the confused persona of students in lower-tier markets, identified structural failure points of traditional resume tools relying on user input through interviews and small-scale surveys: users lacked materials, direction, and even the ability to provide effective context for AI. Consequently, built a structured Industry-Role-Experience database, allowing the model to complete information and infer career paths even under weak input conditions.
- While competitors' features remained stuck at matching reference resumes of top talents, reconstructed the entire workflow of job-seeking resumes. Introduced multi-agent and Context-centric interaction methods ahead of the market, breaking away from the traditional linear "one-time API call" model. Achieved key information extraction, experience rewriting, language styling, and compliance subtasks through Agentic workflows. Combined with the Industry-Role-Experience database to dynamically complete context, enabling the system to stably generate high-quality resumes under weak input conditions.
- To increase the "probability of being seen" for lower-tier users, upgraded outputs from standard PDFs to "Multimodal Job-Seeking Packages": integrated the printing supply chain to design physical resumes with differentiated materials, while generating multi-style online resumes. Expanded the candidate's presentation from a single file to a complete package for job-seeking, further extending into E2E job support including interview prediction, scoring, and real-time interview assistance.

## Selected Projects

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**Construction of Flowtica Workspace** | Keywords: Linearity and Discreteness of Interaction, Human-AI Co-Workspace

*Current interactions essentially infinitely stack new context islands along a timeline. This project aimed to expand semantic dimensions beyond time through a "Human-AI Coexistent Workspace," reorganizing discrete contexts into operable, composable, and expandable structures, while demonstrating trends and user model evolution over a long-term scale.*

- **Web Canvas Workspace:** Built a canvas-style semantic space, transforming linearly stacked content along a timeline into operable semantic nodes. Utilized In-Map Prompting to map users' spatial operations (selection, combination, positioning) directly into a unified entry point for context/prompt/agent outputs. The canvas structure explicitizes parent-child relationships, cross-paragraph citations, and version branches, fundamentally alleviating post-generation discreteness and the "island effect."
- **Mobile Capsule Staging Area:** Compressed the spatial structure of the canvas into a capsule staging area, unifying and encapsulating context, user prompts, and agent content into reusable semantic capsules, enabling the mobile end to maintain isomorphic semantic organization in a one-dimensional list. Users can combine multiple capsules via language to complete cross-paragraph editing and complex references, maintaining semantic continuity in low-density interaction environments and breaking the extreme fragmentation of small-screen usage.
- **Long-Term Semantic Coordinate System:** To solve the long-term isolation of cross-task and cross-time contexts, introduced a semantic coordinate system. Mapped historical interactions to a 2D semantic field via attribute tags for knowledge base organization, trend clustering, and user model evolution. Elevated context management from dialogue logs to an analyzable, locatable, and reusable long-term semantic structure.

**A1lyShape** | Keywords: Vibe Coding Paradigm Prior to Cursor, Fine-Grained Context Selection

*Under extreme constraints of visual impairment and inability to use traditional editing (mouse, code, local observation), built a natural language-centric modeling and editing paradigm. Replaced visual structures with semantic structures, enabling users to create, modify, locate, and understand across versions using language. This approach was later validated by Cursor's Vibe Coding and Visual Edits features and generalized to broader non-professional user scenarios.*

- **Vibe Coding Paradigm:** Reduced the dimensionality of model structure, code logic, and version semantics from visual space to language space. Used natural language as a unified interaction entry point, empowering users to create, modify, understand, and align models across versions via language. This paradigm naturally generalizes to everyday users who cannot manipulate code, solving the underlying issue they share with visually impaired users: complex structures leading to difficult fine-grained manipulation.
- **Context Selection:** To resolve the fundamental ambiguity of "vague references" in pure language interaction (e.g., "help me make this head bigger"), introduced a hierarchical tree component list. Replicated the positioning capabilities of vision and mouse at the semantic level, enabling users to precisely select context under non-visual conditions. Decoupled fine-grained control from the reliance on physical clicking, providing an unambiguous execution entry point for Agents.
- **Multi-Perspective Representation:** To address the memory burden caused by fragmentation in long-term interactions, built a semantic continuity mechanism based on context mapping. Integrated the current context, historical version paths, and overall

modeling objectives into the same semantic framework. Ensured each edit is no longer isolated but embedded in a traceable semantic trajectory, thereby bridging the semantic link between instant editing based on local structures and overall structures / long-term goals.

## Academic Contributions

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Invited to serve as a reviewer for top-tier HCI academic conferences including CHI and DIS within the professional field, received **Special Recognitions and Highly Useful**, and supported by research funding and other formats.

### Reviewer

[2026] [ACM CHI](#), IEEE/ACM HRI, [ACM IUI](#), ACM DIS, ECIS

[2025] IMWUT(Ubicomp), IEEE VIS, IEEE ISMAR, ACM DIS, [ACM CHI](#)

### Publication

[C.3] Haichang Li, Anjun Zhu, and Arpit Narechania, "Alignment–Process–Outcome: Rethinking How AIs and Humans Collaborate," In Extended Abstracts of the 2026 CHI Conference on Human Factors in Computing Systems (CHI EA '26), Barcelona, Spain, 2026.

[C.2] Zhuohao (Jerry) Zhang, Haichang Li, Chun Meng Yu, Faraz Faruqi, Junan Xie, Gene S-H Kim, Mingming Fan, Angus G. Forbes, Jacob O. Wobbrock, Anhong Guo, and Liang He, "A11yShape: AI-Assisted 3-D Modeling for Blind and Low-Vision Programmers," ACM ASSETS, Denver, Colorado, 2025. (The only top-tier conference in the accessibility field, Acceptance Rate: 29%)

*Note: Lead the Design/Develop/User Study/Initial Draft. Co-First authorship adjusted to support the last-year PhD's graduation.*

[C.1] Brian Ng, Samantha Sudhoff, Haichang Li, Joshua Kamphuis, Tim Nadolsky, Yingjie Chen, Kristen Yeon-Ji Yun, and Yung-Hsiang Lu, "Visualize Music Using Generative Arts," 2024 IEEE Conference on Artificial Intelligence (CAI), Singapore, 2024. (Formative user study for Mus2Vid)

### Manuscript and Submission

[M.2] Haichang Li, "Memory as a Service (MaaS): Rethinking Memory as Service-Oriented Modules for Collaborative Agents," (Arxiv: 2506.22815, vision paper for [C.3] and one ongoing technical paper coming soon)

[M.1] Jiasheng Li, Thomas Carlock, Haichang Li, Huaishu Peng, and Liang He. "A11yReview: A Literature Review on Accessibility Artifacts." (To be submitted)

## Media Coverage

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"Low-Vision Programmers Can Now Design 3D Models Independently",

**IEEE Spectrum**. <https://spectrum.ieee.org/3d-modeling-blind-programmers>

"New AI tool opens 3D modeling to blind and low-vision programmers",

**UMich News**. <https://news.umich.edu/new-ai-tool-opens-3d-modeling-to-blind-and-low-vision-programmers/>

"ペン型AIレコーダー「Flowtica Scribe」レビュー 持たずに使え、図版も作る点に価値アリ!",

**Exciteニュース**. [https://www.excite.co.jp/news/article/Cobs\\_3134205/](https://www.excite.co.jp/news/article/Cobs_3134205/)

"At CES 2026, a Real Challenger Emerges in AI Recording: Flowtica Reconsiders Professional Note-Taking Through a Pen",

**Yahoo! Finance**. <https://finance.yahoo.com/news/ces-2026-real-challenger-emerges-200000399.html>

## Awards and Skills

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**Honors & Awards:** Graduated with Distinction. Consecutively named to the Dean's List and Honor Semesters. Received funding support including **DUIRI** (2024), **SURF** (2022), and **RAship** from NSF(2023-2024). Externally obtained Tencent Advanced Product Manager Certificate. Received admission scholarships from George Mason, Notre Dame, Uni Of Rochester, HKUST, etc.

**Technical Skills:** Prototype Development, Data Analysis, Prototyping (Figma), LLM Fine-Tuning and Agent Design.

**Research Skills:** Codebook Design, Qualitative Analysis, Quantitative Analysis, User Research (Surveys, Interviews, Usability Testing, etc.), equipped with full-lifecycle user research experience.