Chunxu Yang

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Research Interest

My research interest lies in Human-AI Interaction, with a focus on building systems that utilize generative AI to provide support in various creative tasks, including writing, painting, and storytelling. I am also dedicated to creating developer toolkits for creating intuitive interactive interfaces seamlessly and exploring different approaches for AI assistance, including proactive and reactive support, sensemaking, and innovative design.

Education

M.S. Electrical & Computer Engineering, Universify of California, Los Angeles — 2022 - Present

B.Sc. Computer Science & Technology, Peking University — 2017 - 2022

B.A. Chinese Language & Literature, Peking University — 2017 - 2022

Publications

[1] A Human-AI Collaborative System to Support Mitosis Assessment in Pathology. **Chunxu Yang**, Mohammad Haeri, Shino Magaki, Neda Zarrin-Khameh, Hongyan Gu, Xiang 'Anthony' Chen. IUI 2024 Posters and Demos. *Just accepted.*

[2] Enhancing Mitosis Quantification and Detection in in Meningiomas with Computational Digital Pathology. Hongyan Gu, **Chunxu Yang**, Issa Al-kharouf, Shino Magaki, Nelli Lakis, Christopher Kazu Williams, Sallam Mohammad Alrosan, Ellie Kate Onstott, Wenzhong Yan1, Negar Khanlou, Inma Cobos, Xinhai Robert Zhang, Neda Zarrin-Khameh, Harry V. Vinters, Xiang 'Anthony' Chen, Mohammad Haeri. Acta Neuropathologica Communications 12, 7 (2024).

[3] INTELMO: Enhancing Models' Adoption of Interactive Interfaces. **Chunxu Yang**, Chien-Sheng Wu, Lidiya Murakhovs'ka, Philippe Laban, Xiang 'Anthony' Chen. In Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing: System Demonstrations, pages 161–166, Singapore. Association for Computational Linguistics.

[4] XCreation: A Graph-based Crossmodal Generative Creativity Support Tool. Zihan Yan, **Chunxu Yang**, Qihao Liang, Pattie Maes, Xiang 'Anthony' Chen. In Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology (UIST '23). Association for Computing Machinery, New York, NY, USA, Article 48, 1–15.

[5] Augmenting Pathologists with NaviPath: Design and Evaluation of a Human-AI Collaborative Navigation System. Hongyan Gu, **Chunxu Yang**, Mohammad Haeri, Jing Wang, Shirley Tang, Wenzhong Yan, Shujin He, Christopher Kazu Williams, Shino Magaki, Xiang 'Anthony' Chen. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Article 349, 1–19.

[6] Improving Workflow Integration with xPath: Design and Evaluation of a Human-AI Diagnosis System in Pathology. Hongyan Gu, Yuan Liang, Yifan Xu, Christopher Kazu Williams, Shino Magaki, Negar Khanlou, Harry Vinters, Zesheng Chen, Shuo Ni, **Chunxu Yang**, Wenzhong Yan, Xinhai Robert Zhang, Yang Li, Mohammad Haeri, Xiang 'Anthony' Chen.In ACM Trans. Comput.-Hum. Interact. 30, 2, Article 28 (April 2023), 37 pages.

Honors

- **Best Paper Honorable Mention** (top 4%), ACM CHI 2023
- **Excellent Student Leader** (top 5%), 2020, Peking University

Experience

Front-End Developer Intern, ByteDance, Ltd — 2021-2022

- Completed supply chain specified component library construction and optimization based on React.
- Developed front-end of Product Lifecycle Management System, including project management and authorization center.

- Participated in development of Order Management System (OMS), developed manufacturer management module.
- Assisted with front-end technology selection of Supply Chain Team, carried out researches on over ten technology sections, including micro front-end and low-code development platforms.

Graduate Research Assistant, UCLA HCI Research 2022 - Present
Supervised by Prof. Xiang 'Anthony' Chen

- Conducting research on human-AI collaboration, focusing on generative AI's assistance with developers, designers and creators.
- Constructing full stack systems that supports pathology using Next.js / React.js for front-ends and Nest.js / Flask for backends.
- Built creativity support tools for multi-modal content generation and story-telling. Bootstrapped app on mobile devices with React Native, SwiftUI and Expo.
- Developed a content consuming platform allowing for seamless integration and consumption of NLP AI results.

Academic Service

Reviewer: 5 reviews.

- ACM CHI Conference on Human Factors in Computing Systems: '24 Papers, '24 Case Studies;
- IEEE VIS alt.vis: '23.

Projects

StoryFairy

- Storyfairy is an iOS Parent-Child storytelling App, utilizing generative AI to craft age-appropriate text and images for children's stories.
- Employed a tech stack featuring SwiftUI, FastAPI, ChatGPT, Dall-E2, and MongoDB, showcasing proficiency in cutting-edge tools and frameworks.
- Enhanced the landscape of AI-driven educational applications, providing an immersive and interactive storytelling experience for parents and children.

EssayPilot

- An AI writing assistant that gets rid of prompting and chat windows. EssayPilot tries to understand the user's mental state while writing in order to provide seamless help and intuitive text generation.
- Constructed web application with Next.js, Vercel AI sdk and Tiptap headless WYSIWYG editor.
- Proposed a new AI-assistance model, which allows AI to detect 'blocks' during writing and provide assistance proactively.

MitoPath

- Created a collaborative AI-assisted system for pathologists, improving the examination of mitosis patterns in tumor diagnosis.
- Utilized machine intelligence to identify mitosis events in digital scans and streamline diagnostic regions.
- Developed an efficient navigation algorithm and highlighted AI-detected mitosis events, enhancing diagnostic precision while retaining pathologists' expertise.