Toby Jia-Jun Li

Curriculum Vitae

Department of Computer Science and Engineering
College of Engineering
University of Notre Dame
Notre Dame, IN 46556 USA

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Research Interests

Human-Computer Interaction (HCI), Human-AI Interaction, Multi-Modal Interaction, Human-Centered Machine Learning, End-User Development, Programming Tools, Human-Centered Data Science.

Professional Appointments

Assistant Professor 2021–Present
Department of Computer Science and Engineering
University of Notre Dame, *Notre Dame, IN*

Director of Human-Centered Responsible AI Lab (HRAI) 2024–Present
Concurrent Assistant Professor *(by courtesy)*
Lucy Family Institute for Data & Society
University of Notre Dame, *Notre Dame, IN*

Faculty Fellow *(by courtesy)* 2025–Present
Institute for Educational Initiatives (IEI)
University of Notre Dame, *Notre Dame, IN*

Education

Ph.D. in Human-Computer Interaction 2021
Carnegie Mellon University, *Pittsburgh, PA*
Human Computer Interaction Institute, School of Computer Science
Advisor: Brad A. Myers
Committee: Tom M. Mitchell, Jeffery P. Bigham, John Zimmerman, and Philip J. Guo

B.S. with Distinction in Computer Science 2015
University of Minnesota, *Minneapolis, MN*
Department of Computer Science and Engineering
Advisor: Brent J. Hecht

Selected Honors and Awards

ISoPE 2026 Privacy Innovation Award [L.26]	2026
Notre Dame Integrating Virtue Together (IVT) Teaching Fellowship (*$3,500*)	2026
CHI 2026 Best Paper Honorable Mention Award [C.52]	2026
CHI 2026 Best Paper Honorable Mention Award [C.55]	2026
CHI 2025 Best Paper Award [C.42]	2025
CHI 2025 Best Paper Honorable Mention Award [C.40]	2025

IUI 2025 Best Paper Honorable Mention Award [C.36]	2025
CSCW 2024 Best Paper Award [C.24]	2024
Lucy Societal Impact Award: *Transportation Insecurity and Rideshare in South Bend, IN*	2024
AnalytiXIN Faculty Fellowship	2022
Google Research Scholar Award (*$60,000*)	2022
CMU School of Computer Science Honorable Mention Dissertation Award	2021
CHI 2021 Best Paper Honorable Mention Award [C.14]	2021
UIST 2020 Best Paper Award [C.13]	2020
Yahoo! InMind Fellowship *(Full support for 4 years*)	2016–2019
IS-EUD 2017 Best Paper Award [C.6]	2017
CHI 2017 Best Paper Honorable Mention Award [C.5]	2017
VL/HCC 2017 Doctoral Consortium Grant (*$1,200*)	2017
2016 Bosch Internet of Things Hackathon – 1st place (*$1,000*)	2016
University of Minnesota Gold Global Excellence Scholarship (*$33,680*)	2012–2015
ESRI Scholarship *($2,000)*	2014
University of Minnesota Cultural Corps Award *($150)*	2014
ACM/ICPC International Collegiate Programming Contest Word Final Qualifier	2013

Major External Grants and Gifts

(Total: $3.91M; ND's share: $2.91M; My credit: $1.41M)

ETEN Innovation Lab: New Directions for LLMs in Bible Translation
Lead PI: David Chiang; Co-PI: Toby Li
2026; $144,433 (Li's credit $28,887)

NSF: Collaborative Research: SaTC: CORE: Small: Empathy-Based Privacy Education and Design through Synthetic Persona Data Generation
CNS-2426395
Lead PI: Toby Li; Additional PIs: Yaxing Yao (Virginia Tech), Tianshi Li (Northeastern University); Senior Personnel: Julia Qian
2024-2027; $599,990 (Li's credit $200,000)

NSF: EAGER: AI-powered, Targeted Instructional Support for Early Childhood Teachers
DRL-2437113
Lead PI: Jill Pentimonti; Co-PIs: Toby Li, Rick Johnson, Tricia Zucker (UTHealth Houston)
2024-2027; $299,997 (Li's credit $74,999)

NSF: FW-HTF-RM: Bridging AI Inequality in Digitally-Mediated Gig Work
CMMI-2326378
Lead PI: Toby Li; Co-PIs: Meng Jiang, Tamara Kay, Yang Yang, Jay Brockman
2023-2027; $999,980 (Li's credit $399,992)

NSF: Broadening Participation in Computing (BPC) Supplement to CCF-2211428 "Towards More Human-like AI Models of Source Code"
CCF- 2315887
Lead PI: Collin McMillan; Co-PI: Toby Li
2023-2024; $128,000

NSF: Collaborative Research: SHF: Medium: Towards More Human-like AI Models of Source Code
CCF-2211428

Lead PI: Collin McMillan (ND); Co-PIs: Toby Li and Yu Huang (Vanderbilt University)
2022-2026; $1,295,880 (ND's share $864,000; Li's credit $432,000)

Google Research Scholar Award: Effective Human-AI Collaboration with Data-Driven Models in UX Design
PI: Toby Li
2022-2023; $60,000

Other Grants and Gifts

Pontificia Universidad Católica de Chile: Designing Human-Computer Collaboration for Curriculum Analytics: How Instructors Calibrate and Act on LLM-Generated Analysis of Competency Assessment Across Institutions
PI: Isabel Hilliger Carrasco (Pontificia Universidad Católica de Chile); Co-PI: Toby Li
2026-2027; $22,000 (Li's share $11,000)

Research Gift from Adobe Inc.
PI: Toby Li
2025; $18,000 and $3,600 in equipment

Notre Dame-IBM Technology Ethics Lab Award: Extending LLM-as-a-Judge to Generative Agents and Multi-Stakeholder Scenarios
PI: Toby Li and Diego Gómez-Zará
2025; $60,000

Notre Dame-IBM Technology Ethics Lab Award: Image Descriptions Are Less Reliable Than They Appear: Support for Blind Users Assessing Capabilities of AI-Powered Access Technology
PI: Amy Pavel (UT Austin)
Notre Dame Collaborator: Toby Li
2025; $60,000 (Li's share $11,000)

University of Notre Dame Strategic Framework Teaching Grant: Towards Thoughtful and Ethical Integration of Generative AI in Undergraduate Writing Education
PIs: Nathaniel Myers, Toby Li, Ranjodh Singh Dhaliwal, Patrick Clauss, Alex Ambrose
2024; $30,000

Notre Dame-IBM Technology Ethics Lab Award: Evaluation, Metrics, and Benchmarks of Large Language Models (LLMs)
PI: Wesley Hanwen Deng, Motahhare Eslami, Ken Holstein, and Jason Hong (Carnegie Mellon University)
Notre Dame Collaborator: Toby Li
2024; $60,000 (Li's share $10,000)

Notre Dame-IBM Technology Ethics Lab Award: Seeing The World through LLM-Colored Glasses - Detecting Biases and Deficiencies in Language Model Presentation of Underrepresented Topics
PI: Muhammad Ali, Ricardo Baeza-Yates, Shiran Dudy, Resmi Amrith, and Thulasi Tholeti (Northeastern);
Notre Dame Collaborator: Toby Li
2024; $60,000 (Li's share $6,000)

Notre Dame-IBM Technology Ethics Lab Award: Evaluation, Metrics, and Benchmarks of Large Language Models (LLMs)
PI: Diego Gómez-Zará; Co-PI: Toby Li
2024; $32,000

University of Notre Dame Asia Research Collaboration Grant: Creativity and Cultural Factors in Human-AI Co-Creation in Fiction Writing
PI: Toby Li; Collaborator: Ray LC (City University of Hong Kong)

2022-2023; $9,835

Google Cloud Research Credit Grant: Procedure Generalization in Interactive Task Learning
PI: Toby Li
2021-2022; $5,000 in credits

Google Cloud Research Credit Grant: Screen2Vec: A New Method for Embedding GUI Screens in Vector Spaces
PI: Toby Li
2020-2021; $1,000 in credits

Google Cloud Research Credit Grant: SUGILITE: A Multi-Modal Agent that Learns Tasks from Natural Language and Demonstrations
PI: Toby Li
2019-2020; $2,000 in credits

AnalytiXIN Idea Discovery Proposal: Human-AI Collaboration in Data Annotation
PI: Toby Li
2022; $13,734

NVIDIA Academic Hardware Grant: Generating Immersive VR Scenes with Spatial Audio from Monaural 2D Videos
PI: Toby Li; Student: Zheng Ning
2022; $4,650 in equipment

Major Refereed Conference Papers

(Underlines indicate students under my supervision)

[C.70] **NARRA-Gym for Evaluating Interactive Narrative Agents**
Yue Huang, Yuchen Ma, Jiayi Ye, Wenjie Wang, Zipeng Ling, Xingjian Hu, Yuexing Hao, Zichen Chen, Zhangchen Xu, Yunhong He, Zhengqing Yuan, Yujun Zhou, Kehan Guo, Chaoran Chen, **Toby Jia-Jun Li**, Stefan Feuerriegel, and Xiangliang Zhang
Proceedings of the 40th Conference on Neural Information Processing Systems (NeurIPS 2026), Evaluations and Datasets Track

[C.69] **Supporting Children's Privacy Literacy through Experiential Learning**
Lanjing Liu, Chaoran Chen, **Toby Jia-Jun Li**, and Yaxing Yao
Proceedings of the ACM on Human-Computer Interaction (GROUP 2027)

[C.68] **How Coding Agents Fail Their Users: A Large-Scale Analysis of Developer-Agent Misalignment in 20,574 Real-World Sessions**
Ningzhi Tang, Chaoran Chen, Gelei Xu, Yiyu Shi, Yu Huang, Collin McMillan, Tao Dong, and **Toby Jia-Jun Li**
Proceedings of the 2026 Conference on Empirical Methods in Natural Language Processing (EMNLP 2026)

[C.67] **Humans' ALMANAC: A Human Collaboration Dataset of Action-Level Mental Model ANnotations for Agent Collaboration**
Jiaju Chen, Yuxuan Lu, Jiayi Su, Chaoran Chen, Songlin Xiao, Zheng Zhang, Yun Wang, Yunyao Li, Jian Zhao, Tongshuang Wu, **Toby Jia-Jun Li**, Dakuo Wang, and Bingsheng Yao
Findings of the 2026 Conference on Empirical Methods in Natural Language Processing (EMNLP Findings 2026)

[C.66] **Programming by Chat: A Large-Scale Behavioral Analysis of 11,579 Real-World AI-Assisted IDE Sessions**
Ningzhi Tang, Chaoran Chen, Zihan Fang, Gelei Xu, Maria Dhakal, Yiyu Shi, Collin McMillan, Yu Huang, and **Toby Jia-Jun Li**
Proceedings of the 41st IEEE/ACM International Conference on Automated Software Engineering (ASE 2026)

[C.65] **Stayin' Aligned Over Time: Toward Longitudinal Human-LLM Alignment via Contextual Reflection and Privacy-Preserving Behavioral Data**
Simret Araya Gebreegziabher, Allison Sproul, Yinuo Yang, Chaoran Chen, Diego Gómez-Zará, and **Toby Jia-Jun Li**
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2026)

[C.64] **NaturalEdit: Code Modification through Direct Interaction with Adaptive Natural Language Representation**
Ningzhi Tang, David Meininger, Gelei Xu, Yiyu Shi, Yu Huang, Collin McMillan, and **Toby Jia-Jun Li**
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2026)

[C.63] **Brushing and Interpretive Linking for Knowledge Work**
Zheng Ning, Michel Pahud, Hugo Romat, Nicolai Marquardt, Fanny Chevalier, Jeevana Priya Inala, Chenglong Wang, David Brown, **Toby Jia-Jun Li**, Ken Hinckley, and Nathalie Riche
Proceedings of Graphics Interface 2026 (GI 2026)

[C.62] **OPeRA: A Dataset of Observation, Persona, Rationale, and Action for Evaluating LLMs on Human Online Shopping Behavior Simulation**
Ziyi Wang, Yuxuan Lu, Wenbo Li, Amirali Amini, Bo Sun, Yakov Bart, Weimin Lyu, Jiri Gesi, Tian Wang, Jing Huang, Yu Su, Upol Ehsan, Malihe Alikhani, **Toby Jia-Jun Li**, Lydia Chilton, and Dakuo Wang
Proceedings of the 64th Annual Meeting of the Association for Computational Linguistics (ACL 2026)

[C.61] **EyeMulator: Improving Code Language Models by Mimicking Human Visual Attention**
Yifan Zhang, Chen Huang, Yueke Zhang, Jiahao Zhang, **Toby Jia-Jun Li**, Collin McMillan, Kevin Leach, and Yu Huang
Proceedings of the 64th Annual Meeting of the Association for Computational Linguistics (ACL 2026)

[C.60] **MultEval: Supporting Collaborative Alignment for LLM-as-a-Judge Evaluation Criteria**
Charles Chiang, Simret Gebreegziabher, Annalisa Szymanski, Hyo Jin Do, Zahra Ashktorab, Werner Geyer, **Toby Jia-Jun Li**, and Diego Gómez-Zará
Proceedings of the 5th Symposium on Human-Computer Interaction for Work (CHIWORK 2026)

[C.59] **Uncovering Disparities in Rideshare Drivers' Earning and Work Patterns: A Case Study of Chicago**
Hy Dang, Yuwen Lu, Jason Spicer, Tamara Kay, Di Yang, Yang Yang, Jay Brockman, Meng Jiang, and **Toby Jia-Jun Li**
Proceedings of the ACM on Human-Computer Interaction (CSCW 2026)

[C.58] **PrivacyMotiv: Vulnerability-Centered Persona Journeys for Empathic Privacy Reviews in UX Design**
Zeya Chen, Jianing Wen, Yaxing Yao, Toby Jia-Jun Li, Tianshi Li
Proceedings of the 2026 ACM Designing Interactive Systems Conference (DIS 2026)

[C.57] **Dark Patterns Meet GUI Agents: LLM Agent Susceptibility to Manipulative Interfaces and the Role of Human Oversight**
Jingyu Tang, Chaoran Chen, Jiawen Li, Zhiping Zhang, Bingcan Guo, Ibrahim Khalilov, Simret Araya Gebreegziabher, Bingsheng Yao, Dakuo Wang, Yanfang Ye, Tianshi Li, Ziang Xiao, Yaxing Yao, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2026)

[C.56] **Vistoria: A Multimodal System to Support Fictional Story Writing through Instrumental Text–Image Co-Editing**
Kexue Fu, Jingfei Huang, Long Ling, Sumin Hong, Yihang Zuo, Ray LC, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2026)

[C.55] **Crepe: A Mobile Screen Data Collector Using Graph Query**
Yuwen Lu, Meng Chen, Qi Zhao, Victor Cox IV, Yang Yang, Meng Jiang, Jay Brockman, Tamara Kay, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2026)
Best Paper Honorable Mention Award

[C.54] **Designing Staged Evaluation Workflows for LLMs: Integrating Domain Experts, Lay Users, and Model-Generated Evaluation Criteria**
Annalisa Szymanski, Simret Araya Gebreegziabher, Maro Anuyah, Ronald Metoyer, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2026)

[C.53] **Through the Lens of Human-Human Collaboration: A Configurable Research Platform for Exploring Human-Agent Collaboration**
Bingsheng Yao, Jiaju Chen, Chaoran Chen, April Yi Wang, **Toby Jia-Jun Li**, and Dakuo Wang
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2026)

[C.52] **My Favorite Streamer is an LLM: Discovering, Bonding, and Co-Creating in AI VTuber Fandom**
Jiayi Ye, Chaoran Chen, Yue Huang, Yanfang Ye, **Toby Jia-Jun Li**, and Xiangliang Zhang
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2026)
Best Paper Honorable Mention Award

[C.51] **The Behavioral Fabric of LLM-Powered GUI Agents: Human Values and Interaction Outcomes**
Simret Araya Gebreegziabher, Yukun Yang, Charles Chiang, Hojun Yoo, Chaoran Chen, Hyo Jin Do, Zahra Ashtorab, Werner Geyer, Diego Gómez-Zará, and **Toby Jia-Jun Li**
Proceedings of the 31st ACM Conference on Intelligent User Interfaces (IUI 2026)

[C.50] **Key Considerations for Domain Expert Involvement in LLM Design and Evaluation: An Ethnographic Study**
Annalisa Szymanski, Oghenemaro Anuyah, **Toby Jia-Jun Li**, and Ronald Metoyer
Proceedings of the 31st ACM Conference on Intelligent User Interfaces (IUI 2026)

[C.49] **Exploring Direct Instruction and Summary-Mediated Prompting in LLM-Assisted Code Modification**
Ningzhi Tang, Emory Smith, Yu Huang, Collin McMillan, and **Toby Jia-Jun Li**
Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2025)

[C.48] **GLITTER: An AI-assisted Platform for Material-Grounded Asynchronous Discussion in Flipped Learning**
Weirui Peng*, Yinuo Yang*, Zheng Zhang, and **Toby Jia-Jun Li**
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2025)

[C.47] **AROMA: Mixed-Initiative AI Assistance for Non-Visual Cooking by Grounding Multimodal Information Between Reality and Videos**
Zheng Ning, Leyang Li, Daniel Killough, JooYoung Seo, Patrick Carrington, Yapeng Tian, Yuhang Zhao, Franklin Mingzhe Li, and **Toby Jia-Jun Li**
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2025)

[C.46] **Why am I seeing this: Democratizing End User Auditing for Online Content Recommendations**
Chaoran Chen, Leyang Li, Luke Cao, Yanfang Ye, Tianshi Li, Yaxing Yao, and **Toby Jia-Jun Li**
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2025)

[C.45] **Leveraging Variation Theory in Counterfactual Data Augmentation for Optimized Active Learning**
Simret Araya Gebreegziabher, Kuangshi Ai, Zheng Zhang, Elena L. Glassman, and **Toby Jia-Jun Li**
Findings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL Findings 2025)

[C.44] **Towards a Design Guideline for RPA Evaluation: A Survey of Large Language Model-Based Role-Playing Agents**
Chaoran Chen, Bingsheng Yao, Ruishi Zou, Wenyue Hua, Weimin Lyu, **Toby Jia-Jun Li**, and Dakuo Wang
Findings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL Findings 2025)

[C.43] **MetricMate: An Interactive Tool for Generating Evaluation Criteria for LLM-as-a-Judge Workflow**
Simret Araya Gebreegziabher, Charles Chiang, Zichu Wang, Zahra Ashktorab, Michelle Brachman, Werner Geyer, **Toby Jia-Jun Li**, and Diego Gómez-Zará
Proceedings of the 3rd Symposium on Human-Computer Interaction for Work (CHIWORK 2025)

[C.42] **Supporting Co-Adaptive Machine Teaching through Human Concept Learning and Cognitive Theories**
Simret Araya Gebreegziabher, Yukun Yang, Elena L. Glassman, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2025)
Best Paper Award

[C.41] **LADICA: A Large Shared Display Interface for Generative AI Cognitive Assistance in Co-located Team Collaboration**
Zheng Zhang, Weirui Peng, Xinyue Chen, Luke Cao, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2025)

[C.40] **Hashtag Re-appropriation For Audience Control on Recommendation-driven Social Media Xiaohongshu**
Ruyuan Wan, Lingbo Tong, Tiffany Knearem, **Toby Jia-Jun Li**, Ting-Hao Kenneth Huang, and Qunfang Wu
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2025)
Best Paper Honorable Mention Award

[C.39] **From Operation to Cognition: Automatic Modeling Cognitive Dependencies from User Demonstrations for GUI Task Automation**
Yiwen Yin, Yu Mei, Chun Yu, **Toby Jia-Jun Li**, Aamir Khan Jadoon, Sixiang Cheng, Weinan Shi, Mohan Chen, and Yuanchun Shi
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2025)

[C.38] **CLEAR: Towards Contextual LLM-Empowered Privacy Policy Analysis and Risk Generation for Large Language Model Applications**
Chaoran Chen, Daodao Zhou, Yanfang Ye, **Toby Jia-Jun Li**, and Yaxing Yao
Proceedings of the 30th ACM Conference on Intelligent User Interfaces (IUI 2025)

[C.37] **Limitations of the LLM-as-a-Judge Approach for Evaluating LLM Outputs in Expert Knowledge Tasks**
Annalisa Szymanski, Noah Ziems, Heather A. Eicher-Miller, **Toby Jia-Jun Li**, Meng Jiang, and Ronald A. Metoyer
Proceedings of the 30th ACM Conference on Intelligent User Interfaces (IUI 2025)

[C.36] **Unequal Opportunities: Examining the Bias in Geographical Recommendations by Large Language Models**
Shiran Dudy, Thulasi Tholeti, Resmi Ramachandranpillai, Ali Muhammad, **Toby Jia-Jun Li**, and Ricardo Baeza-Yates
Proceedings of the 30th ACM Conference on Intelligent User Interfaces (IUI 2025)
Best Paper Honorable Mention Award

[C.35] **"I'm categorizing LLM as a productivity tool": Examining ethics of LLM use in HCI research practices**
Shivani Kapania, Ruiyi Wang, **Toby Jia-Jun Li**, Tianshi Li, and Hong Shen
Proceedings of the ACM on Human-Computer Interaction (CSCW 2025)

[C.34] **Careful About What App Promotion Ads Recommend! Detecting and Explaining Malware Promotion via App Promotion Graph**
Shang Ma, Chaoran Chen, Shao Yang, Shifu Hou, **Toby Jia-Jun Li**, Xusheng Xiao, Tao Xie, and Yanfang Ye
The Network and Distributed System Security Symposium (NDSS 2025)

[C.33] **Sketchar: Supporting Character Design and Illustration Prototyping Using Generative AI**
Long Ling, Xinyi Chen, Ruoyu Wen, **Toby Jia-Jun Li**, and Ray LC
Proceedings of the ACM on Human-Computer Interaction (CHI PLAY 2024)

[C.32] **SQLucid: Grounding Natural Language Database Queries with Interactive Explanations**
Yuan Tian, Jonathan Kummerfeld, **Toby Jia-Jun Li**, and Tianyi Zhang
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2024)

[C.31] **MIMOSA: Human-AI Co-Creation of Computational Spatial Audio Effects on Videos**
Zheng Ning, Zheng Zhang, Jerrick Ban, Kaiwen Jiang, Ruohong Gan, Yapeng Tian, and **Toby Jia-Jun Li**
Proceedings of the 16th ACM Conference on Creativity and Cognition (C&C 2024)

[C.30] **EyeTrans: Merging Human and Machine Attention for Neural Code Summarization**
Yifan Zhang, Jiliang Li, Zachary Karas, Aakash Bansal, **Toby Jia-Jun Li**, Collin McMillan, Kevin Leach, and Yu Huang
Proceedings of the ACM International Conference on the Foundations of Software Engineering (FSE 2024)

[C.29] **An Empathy-Based Sandbox Approach to Bridge the Privacy Gap among Attitudes, Goals, Knowledge, and Behaviors**
Chaoran Chen, Weijun Li, Wenxin Song, Yanfang Ye, Yaxing Yao, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2024)

[C.28] **SPICA: Interactive Video Content Exploration through Augmented Audio Descriptions for Blind or Low-Vision Viewers**
Zheng Ning, Brianna L. Wimer, Kaiwen Jiang, Keyi Chen, Jerrick Ban, Yapeng Tian, Yuhang Zhao, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2024)

[C.27] **Luminate: Structured Generation and Exploration of Design Space with Large Language Models for Human-AI Co-Creation**
Sangho Suh*, Meng Chen*, Bryan Min, **Toby Jia-Jun Li**, and Haijun Xia
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2024)

[C.26] **CollabCoder: A Lower-barrier, Rigorous Workflow for Inductive Collaborative Qualitative Analysis with Large Language Models**
Jie Gao, Yuchen Guo, Gionnieve Lim, Tianqin Zhang, Zheng Zhang, **Toby Jia-Jun Li**, and Simon Perrault
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2024)

[C.25] **AutoDroid: LLM-powered Task Automation in Android**
Hao Wen, Yuanchun Li, Guohong Liu, Shanhui Zhao, Tao Yu, **Toby Jia-Jun Li**, Shiqi Jiang, Yunhao Liu, Yaqin Zhang, and Yunxin Liu
Proceedings of the 30th Annual International Conference on Mobile Computing and Networking (MobiCom '24)

[C.24] **From Awareness to Action: Exploring End-User Empowerment Interventions for Dark Patterns in UX**
Yuwen Lu, Chao Zhang, Yuewen Yang, Yaxing Yao, and **Toby Jia-Jun Li**
Proceedings of the ACM on Human-Computer Interaction (CSCW 2024)
🏆 Best Paper Award

[C.23] **Interactive Text-to-SQL Generation via Editable Step-by-Step Explanations**
Yuan Tian, Zheng Zhang, Zheng Ning, **Toby Jia-Jun Li**, Jonathan Kummerfeld, and Tianyi Zhang
Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP 2023)

[C.22] **VISAR: A Human-AI Argumentative Writing Assistant with Visual Programming and Rapid Draft Prototyping**
Zheng Zhang, Jie Gao, Ranjodh Singh Dhaliwal, and **Toby Jia-Jun Li**
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2023)

[C.21] **PEANUT: A Human-AI Collaborative Tool for Annotating Audio-Visual Data**
Zheng Zhang*, Zheng Ning*, Chenliang Xu, Yapeng Tian, and **Toby Jia-Jun Li**
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2023)

[C.20] **PaTAT: Human-AI Collaborative Qualitative Coding with Explainable Interactive Rule Synthesis**
Simret Araya Gebreegziabher*, Zheng Zhang*, Xiaohang Tang, Yihao Meng, Elena Glassman, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2023)

[C.19] **An Empirical Study of Model Errors and User Error Discovery and Repair Strategies in Natural Language Database Queries**
Zheng Ning*, Zheng Zhang*, Tianyi Sun, Yuan Tian, Tianyi Zhang, and **Toby Jia-Jun Li**
Proceedings of the 28th ACM Conference on Intelligent User Interfaces (IUI 2023)

[C.18] **A Bottom-Up End-User Intelligent Assistant Approach to Empower Gig Workers against AI Inequality**
Toby Jia-Jun Li, Yuwen Lu, Jaylexia Clark, Meng Chen, Victor Cox, Meng Jiang, Yang Yang, Tamara Kay, Danielle Wood, and Jay Brockman
Proceedings of the 1st Symposium on Human-Computer Interaction for Work (CHIWORK 2022)

[C.17] **It is AI's Turn to Ask Human a Question: Question and Answer Pair Generation for Children Storybooks in FairytaleQA Dataset**
Bingsheng Yao, Dakuo Wang, Tongshuang Wu, Zheng Zhang, **Toby Jia-Jun Li**, Mo Yu, and Ying Xu
Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL 2022)

[C.16] **Fantastic Questions and Where to Find Them: FairytaleQA–An Authentic Dataset for Narrative Comprehension**
Ying Xu, Dakuo Wang, Mo Yu, Daniel Ritchie, Bingsheng Yao, Tongshuang Wu, Zheng Zhang, **Toby Jia-Jun Li**, Nora Bradford, Branda Sun, Tran Hoang, Yisi Sang, Yufang Hou, Xiaojuan Ma, Diyi Yang, Nanyun Peng, Zhou Yu, and Mark Warschauer
Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL 2022)

[C.15] **StoryBuddy: A Human-AI Collaborative Agent for Parent-Child Interactive Storytelling with Flexible Parent Involvement**
Zheng Zhang, Ying Xu, Yanhao Wang, Bingsheng Yao, Daniel Ritchie, Tongshuang Wu, Mo Yu, Dakuo Wang, and **Toby Jia-Jun Li**
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2022)

[C.14] **Screen2Vec: Semantic Embedding of GUI Screens and GUI Components**
Toby Jia-Jun Li, Lindsay Popowski, Tom M. Mitchell, and Brad A. Myers
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2021)
Best Paper Honorable Mention Award

[C.13] **Multi-Modal Repairs of Conversational Breakdowns in Task-Oriented Dialogs**
Toby Jia-Jun Li, Jingya Chen, Haijun Xia, Tom M. Mitchell, and Brad A. Myers
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2020)
Best Paper Award

[C.12] **Geno: A Developer Tool for Authoring Multimodal Interaction on Existing Web Applications**
Ritam Sarmah, Yunpeng Ding, Di Wang, Cheuk Yin Phipson Lee, **Toby Jia-Jun Li**, and Xiang 'Anthony' Chen
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2020)

[C.11] **Interactive Task Learning from GUI-Grounded Natural Language Instructions and Demonstrations**
Toby Jia-Jun Li, Tom M. Mitchell, and Brad A. Myers
Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics (ACL 2020): System Demonstrations

[C.10] **Privacy-Preserving Script Sharing in GUI-based Programming-by-Demonstration Systems**
Toby Jia-Jun Li, Jingya Chen, Brandon Canfield, and Brad A. Myers
Proceedings of the ACM on Human-Computer Interaction (CSCW 2020)

[C.9] **PUMICE: A Multi-Modal Agent that Learns Concepts and Conditionals from Natural Language and Demonstrations**
Toby Jia-Jun Li, Marissa Radensky, Justin Jia, Kirielle Singarajah, Tom M. Mitchell, and Brad A. Myers
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2019)

[C.8] **A Multi-Modal Interface for Specifying Data Descriptions in Programming by Demonstration Using Verbal Instructions**
Toby Jia-Jun Li, Igor Labutov, Xiaohan Nancy Li, Xiaoyi Zhang, Wenze Shi, Wanling Ding, Tom M. Mitchell, and Brad A. Myers
Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2018)

[C.7] **KITE: Building Conversational Bots from Mobile Apps**
Toby Jia-Jun Li and Oriana Riva
Proceedings of the ACM Conference on Mobile Systems, Applications, and Services (MobiSys 2018)

[C.6] **Programming IoT Devices by Demonstration Using Mobile Apps**
Toby Jia-Jun Li, Yuanchun Li, Fanglin Chen, and Brad A. Myers
International Symposium on End User Development (IS-EUD 2017). LNCS, vol. 10303
Best Paper Award

[C.5] **SUGILITE: Creating Multimodal Smartphone Automation by Demonstration**
Toby Jia-Jun Li, Amos Azaria, and Brad A. Myers
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2017)
Best Paper Honorable Mention Award

[C.4] **PrivacyStreams: Enabling Transparency in Personal Data Processing for Mobile Apps**
Yuanchun Li, Fanglin Chen, **Toby Jia-jun Li**, Yao Guo, Gang Huang, Matthew Fredrikson, Yuvraj Agarwal, and Jason I. Hong
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT / UbiComp 2017)

[C.3] **Not at Home on the Range: Peer Production and the Urban/Rural Divide**
Isaac Johnson, Yilun Lin, **Toby Jia-Jun Li,** Andrew Hall, Aaron Halfaker, Johannes Schöning, and Brent Hecht
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2016)

[C.2] **Leveraging Advances in Natural Language Processing to Better Understand Tobler's First Law of Geography**
Toby Jia-Jun Li, Shilad Sen, and Brent Hecht
Proceedings of the ACM Conference on Advances in Geographic Information Systems (SIGSPATIAL 2014)

[C.1] **WikiBrain: Democratizing Computation on Wikipedia**
Shilad Sen, **Toby Jia-Jun Li,** WikiBrain Team, and Brent Hecht
Proceedings of the International Symposium on Open Collaboration (OpenSym / WikiSym 2014)

Major Refereed Journal Papers

[J.8] **A Grounded Theory Study to Guide AI-Driven Code Comment Improvement**
Maria Dhakal, Chia-Yi Su, Robert Wallace, Chris Fakhimi, Aakash Bansal, **Toby Jia-Jun Li,** Yu Huang, and Collin McMillan.
Journal of Software: Evolution and Process, 2026

[J.7] **A Comprehensive Survey of AI Agents in Healthcare**
Gelei Xu, Xueyang Li, Yixiong Chen, Yuying Duan, Shuqing Wu, Haoxinran Yu, Ching-Hao Chiu, Juntong Ni, Ningzhi Tang, **Toby Jia-Jun Li**, Alan Yuille, Wei Jin, and Yiyu Shi.
Journal of Biomedical Informatics, 2026

[J.6] **The Obvious Invisible Threat: Vulnerabilities of LLM-Powered GUI Agents in Web-Interaction Tasks**
Chaoran Chen, Zhiping Zhang, Bingcan Guo, Shang Ma, Ibrahim Khalilov, Simret A. Gebreegziabher, Yanfang Ye, Ziang Xiao, Yaxing Yao, Tianshi Li, and **Toby Jia-Jun Li**
ACM Transactions on AI Security and Privacy, 2026

[J.5] **Investigating the Feasibility of Conducting Webcam-Based Eye-Tracking Studies in Code Comprehension**
Zihan Fang, Robert Wallace, Zachary Karas, **Toby Jia-Jun Li**, Collin McMillan, and Yu Huang
IEEE Transactions on Software Engineering (TSE), 2026

[J.4] **Context-aware Code Summary Generation**
Chia-Yi Su, Aakash Bansal, Yu Huang, **Toby Jia-Jun Li**, and Collin McMillan
Journal of Systems and Software, 2025

[J.3] **Programmer Visual Attention During Context-Aware Code Summarization**
Robert Wallace, Aakash Bansal, Zachary Karas, Ningzhi Tang, Yu Huang, **Toby Jia-Jun Li**, and Collin McMillan
IEEE Transactions on Software Engineering (TSE), 2025

[J.2] **A Tale of Two Comprehensions? Analyzing Student Programmer Attention during Code Summarization**
Zachary Karas, Aakash Bansal, Yifan Zhang, **Toby Jia-Jun Li**, Collin McMillan, and Yu Huang
ACM Transactions on Software Engineering and Methodology (TOSEM), 2024

[J.1] **Insights into Natural Language Database Query Errors: From Attention Misalignment to User Handling Strategies**
Zheng Ning, Yuan Tian, Zheng Zhang, Tianyi Zhang, and **Toby Jia-Jun Li**
ACM Transactions on Interactive Intelligent Systems (TIIS), 2024

Refereed Workshop Papers

[W.21] **The Prompt as a Human-AI Security Boundary: Predicting and Reducing Vulnerabilities Before AI-Assisted Code Generation**
Chaoran Chen, Ningzhi Tang, Alfonso Alcaraz Moreno, Yanfang Ye, Yaxing Yao, and **Toby Jia-Jun Li**
COLM 2026 Workshop on Human-Centered Privacy and Security for Language Models (HAIPS 2026)

[W.20] **Position: Approval Can Reinforce Misalignment in Human Oversight of Computer-Use Agents**
Chaoran Chen, Yanfang Ye, Dakuo Wang, Tianshi Li, Yaxing Yao, Ziang Xiao, and **Toby Jia-Jun Li**
COLM 2026 Workshop on Human-Centered Privacy and Security for Language Models (HAIPS 2026)

[W.19] **Encoding Disagreement: Human Oversight Challenges in LLM-as-a-Judge Systems**
Charles Chiang, Simret Gebreegziabher, Annalisa Szymanski, Yukun Yang, Hyo Jin Do, Zahra Ashktorab, Werner Geyer, **Toby Jia-Jun Li**, and Diego Gómez-Zará
IUI 2026 Workshop on the Challenges for Human Oversight of AI Systems (CHAOS 2026)

[W.18] **Beyond Task Completion: A Process-Oriented Framework for Evaluating Preference and Value Alignments in Computer-Using Agents**
Yukun Yang, Simret Araya Gebreegziabher, Hojun Yoo, Charles Chiang, Chaoran Chen, Annalisa Szymanski, Hyo Jin Do, Zahra Ashktorab, Werner Geyer, Diego Gómez-Zará, and **Toby Jia-Jun Li**
IUI 2026 Workshop on Trustworthy Computer-Using Generalist Agents for Intelligent User Interfaces

[W.17] **From Verification Burden to Trusted Collaboration: Design Goals for LLM-Assisted Literature Reviews**
Brenda Nogueira, Werner Geyer, Andrew Anderson, **Toby Jia-Jun Li**, Dongwhi Kim, Nuno Moniz, and Nitesh V Chawla
AAAI 2026 Workshop on AI for Scientific Research

[W.16] **Speculating Unintended Creepiness: Exploring LLM-Powered Empathy Building for Privacy-Aware UX Design**
Zeya Chen, Jianing Wen, **Toby Jia-Jun Li**, Yaxing Yao, and Tianshi Li
CCS 2025 Workshop on Human-Centered AI Privacy and Security (HAIPS 2025)

[W.15] **Beyond Permissions: Investigating Mobile Personalization with Simulated Personas**
Ibrahim Khalilov, Chaoran Chen, Ziang Xiao, Tianshi Li, **Toby Jia-Jun Li**, and Yaxing Yao
CCS 2025 Workshop on Human-Centered AI Privacy and Security (HAIPS 2025)

[W.14] **Iterative Contextual Consent: AI-enabled Data Privacy Contracts**
Daniel D. Slate, Chaoran Chen, Yaxing Yao, and **Toby Jia-Jun Li**
CCS 2025 Workshop on Human-Centered AI Privacy and Security (HAIPS 2025)

[W.13] **Toward a Human-Centered Evaluation Framework for Trustworthy LLM-powered GUI Agents**
Chaoran Chen, Zhiping Zhang, Ibrahim Khalilov, Bingcan Guo, Simret Araya Gebreegziabher, Yanfang Ye, Yaxing Yao, Ziang Xiao, Tianshi Li, and **Toby Jia-Jun Li**
CHI 2025 Workshop on Human-Centered Evaluation and Auditing of Language Models (HEAL)

[W.12] **MetricMate: An Interactive Tool for Generating Evaluation Criteria for LLM-as-a-Judge Workflow**
Simret Araya Gebreegziabher, Charles Chiang, Zichu Wang, Zahra Ashktorab, Michelle Brachman, Werner Geyer, **Toby Jia-Jun Li**, and Diego Gómez-Zará
IUI 2025 Workshop on Human-AI Co-Creation with Generative Models (HAI-GEN)

[W.11] **Evaluating the LLM Agents for Simulating Humanoid Behavior**
Chaoran Chen, Bingsheng Yao, Yanfang Ye, Dakuo Wang, and **Toby Jia-Jun Li**
CHI 2024 Workshop on Human-Centered Evaluation and Auditing of Language Models (HEAL)

[W.10] **Prompt Learning Unlocked for App Promotion in the Wild**
Zhongyu Ouyang, Shifu Hou, Shang Ma, Chaoran Chen, Chunhui Zhang, **Toby Jia-Jun Li**, Xusheng Xiao, Chuxu Zhang, and Yanfang Ye
NeurIPS 2023 Workshop on New Frontiers in Graph Learning (GLFrontiers)

[W.9] **Exploring Mobile UI Layout Generation using Large Language Models Guided by UI Grammar**
Yuwen Lu, Ziang Tong, Anthea Qinyi Zhao, Chengzhi Zhang, and **Toby Jia-Jun Li**
ICML 2023 Workshop on Artificial Intelligence and Human-Compter Interaction (AI&HCI)

[W.8] **Using Large Generative Models for Storyboarding: Challenges and Goals**
Zheng Ning, Dingzeyu Li, and **Toby Jia-Jun Li**
CHI 2023 Workshop on Intelligent and Interactive Writing Assistants (In2Writing)

[W.7] **An Empirical Study of Developer Behaviors for Validating and Repairing AI-Generated Code**
Ningzhi Tang*, Meng Chen*, Zheng Ning, Aakash Bansal, Yu Huang, Collin McMillan, and **Toby Jia-Jun Li**
The 13th Annual Workshop on the Intersection of PL and HCI (PLATEAU 2023)

[W.6] **MIMOSA: Human-in-the-Loop Generation of Spatial Audio from Videos with Monaural Audio**
Zheng Ning*, Zheng Zhang*, Jerrick Ban, Kaiwen Jiang, Ruohong Gan, Yapeng Tian, and **Toby Jia-Jun Li**
ECCV 2022 Workshop on Visual Learning of Sounds in Spaces (AV4D)

[W.5] **AI as an Active Writer: Interaction Strategies with Generated Text in Human-AI Collaborative Fiction Writing**
Daijin Yang, Yanpeng Zhou, Zhiyuan Zhang, **Toby Jia-Jun Li**, and Ray LC
IUI 2022 Workshop on Human-AI Co-Creation with Generative Models (HAI-GEN 2022)

[W.4] **Building an Interactive Storytelling Conversational Agent through Parent-AI Collaboration**
Zheng Zhang, Ying Xu, Yanhao Wang, Bingsheng Yao, Daniel Ritchie, Tongshuang Wu, Mo Yu, Dakuo Wang, and **Toby Jia-Jun Li**
CSCW 2021 Workshop on Inclusive and Collaborative Child-Facing Voice Technologies (CUI@CSCW)

[W.3] **Towards Effective Human-AI Collaboration in GUI-Based Interactive Task Learning Agents**
Toby Jia-Jun Li, Jingya Chen, Tom M. Mitchell, and Brad A. Myers
CHI 2020 Workshop on Artificial Intelligence for HCI: A Modern Approach (AI4HCI)

[W.2] **Interactive Task and Concept Learning from Natural Language Instructions and GUI Demonstrations**
Toby Jia-Jun Li, Marissa Radensky, Justin Jia, Kirielle Singarajah, Tom M. Mitchell, and Brad A. Myers
AAAI 2020 Workshop on Intelligent Process Automation (IPA-20)

[W.1] **A Multi-Modal Approach to Concept Learning in Task Oriented Conversational Agents**
Toby Jia-Jun Li, Marissa Radensky, Tom M. Mitchell, and Brad A. Myers
CHI 2019 Workshop on Conversational Agents: Acting on the Wave of Research and Development

Lightly-Reviewed Publications and Extended Abstracts

[L.27] **AI-Enabled Fraudulent Participation in Human-Subjects Research**
Weijia He, EunJeong Cheon, Chia-Fang Chung, Dipto Das, Harmanpreet Kaur, **Toby Jia-Jun Li**, Jessica Vitak, and Yaxing Yao
CSCW Companion '26: Proceedings of the 2026 Companion of the Computer-Supported Cooperative Work and Social Computing

[L.26] **Scaffolding User Agency for Privacy in AI-Mediated Interactions: Beyond Inform-and-Consent in the Age of AI Agents**
Chaoran Chen, Yanfang Ye, Tianshi Li, Ziang Xiao, **Toby Jia-Jun Li**, and Yaxing Yao
2026 IEEE Symposium on Privacy Expectations (ISoPE 2026)
🏆 Privacy Innovation Award

[L.25] **EvalAgent: Interactive Comparative Evaluation of Computer-Using GUI Agents**
Yukun Yang, Simret Araya Gebreegziabher, Hojun Yoo, Charles Chiang, Chaoran Chen, Annalisa Szymanski, Hyo Jin Do, Zahra Ashktorab, Werner Geyer, Diego Gómez-Zará, and **Toby Jia-Jun Li**
ACM Conference on Intelligent User Interfaces (IUI 2026) Demos Track

[L.24] **MultEval: Collaboratively Creating Criteria for LLM-as-a-Judge Systems**
Charles Chiang, Simret Araya Gebreegziabher, Annalisa Szymanski, Yukun Yang, Hyo Jin Do, Zahra Ashktorab, Werner Geyer, **Toby Jia-Jun Li**, and Diego Gómez-Zará
ACM Conference on Intelligent User Interfaces (IUI 2026) Demos Track

[L.23] **From Verification Burden to Trusted Collaboration: Design Goals for LLM-Assisted Literature Reviews**
Brenda Nogueira, Werner Geyer, Andrew A. Anderson, **Toby Jia-Jun Li**, Nuno Moniz, Nitesh V. Chawla, and Dongwhi Kim
ACM Conference on Intelligent User Interfaces (IUI 2026) Posters Track

[L.22] **PriviSense: A Frida-Based Framework for Multi-Sensor Spoofing on Android**
Ibrahim Khalilov, Chaoran Chen, Ziang Xiao, Tianshi Li, **Toby Jia-Jun Li**, Yaxing Yao
2026 IEEE/ACM 48th International Conference on Software Engineering (ICSE 2026): Demo Track

[L.21] **AgentPbD: Interactive Agentic Workflow Generation from User Demonstration on Web Browsers**
Jiawen Li, Zheng Ning, Yuan Tian, and **Toby Jia-Jun Li**
IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2025) Posters and Showpieces Track

[L.20] **PASTA: Direct Instruction and Summary-Mediated Prompting in LLM-Assisted Code Modification**
Ningzhi Tang, Emory Smith, Yu Huang, Collin McMillan, and **Toby Jia-Jun Li**
IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2025) Posters and Showpieces Track

[L.19] **UXAgent: An LLM Agent-Based Usability Testing Framework for Web Design**
Yuxuan Lu, Bingsheng Yao, Hansu Gu, Jing Huang, Jessie Wang, Laurence Li, Jiri Gesi, Qi He, **Toby Jia-Jun Li**, and Dakuo Wang
Extended Abstracts of the 2025 ACM Conference on Human Factors in Computing Systems (CHI EA '25)

[L.18] **MOCHA: Model Optimization through Collaborative Human-AI Alignment**
Simret Araya Gebreegziabher, Elena L. Glassman, and **Toby Jia-Jun Li**
Adjunct Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2024)

[L.17] **Challenges and Opportunities of LLM-Based Synthetic Personae and Data in HCI**
Mirjana Prpa, Giovanni Troiano, Bingsheng Yao, **Toby Jia-Jun Li**, Dakuo Wang, Hansu Gu
CSCW'24 Companion: Companion Publication of the 2024 Conference on Computer Supported Cooperative Work and Social Computing

[L.16] **Developer Behaviors in Validating and Repairing LLM-Generated Code Using IDE and Eye Tracking**
Ningzhi Tang, Meng Chen, Zheng Ning, Aakash Bansal, Yu Huang, Collin McMillan, and **Toby Jia-Jun Li**
Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2024)

[L.15] **CoCo Matrix: Taxonomy of Cognitive Contributions in Co-writing with Intelligent Agents**
Ruyuan Wan*, Simret Gebreegziabher*, **Toby Jia-Jun Li**, and Karla Badillo-Urquiola
Extended Abstracts of the 16th ACM Conference on Creativity and Cognition (C&C 2024)

[L.14] **A Taxonomy for Human-LLM Interaction Modes: An Initial Exploration**
Jie Gao, Simret Gebreegziabher, Kenny Choo, **Toby Jia-Jun Li**, Simon Perrault, Thomas Malone
Extended Abstracts of the 2024 ACM Conference on Human Factors in Computing Systems (CHI EA '24)

[L.13] **CodeGRITS: A Research Toolkit for Developer Behavior and Eye Tracking in IDE**
Ningzhi Tang, Junwen An, Meng Chen, Aakash Bansal, Yu Huang, Collin McMillan, **Toby Jia-Jun Li**
2024 IEEE/ACM 46th International Conference on Software Engineering (ICSE '24): Demo Track

[L.12] **Computational Methodologies for Understanding, Automating, and Evaluating User Interfaces**
Yue Jiang, Yuwen Lu, Tiffany Knearem, Clara Kliman-Silver, Christof Lutteroth, **Toby Jia-Jun Li**, Jeffery Nichols, and Wolfgang Stuerzlinger
Extended Abstracts of the 2024 ACM Conference on Human Factors in Computing Systems (CHI EA '24)

[L.11] **Future Advising: Can Academic Advising be Replaced by ChatGPT or Artificial Intelligence?**
Julia Qian and **Toby Jia-Jun Li**
National Academic Advising Association (NACADA) 2023 Annual Conference

[L.10] **Modeling Programmer Attention as Scanpath Prediction**
Aakash Bansal, Chia-Yi Su, Zachary Karas, Yifan Zhang, Yu Huang, **Toby Jia-Jun Li**, and Collin McMillan
The 38th IEEE/ACM International Conference on Automated Software Engineering (ASE 2023): The New Ideas and Emerging Results (NIER) Track

[L.9] **DiffCoder: A GPT-Powered WorkFlow for Collaborative Qualitative Analysis**
Jie Gao, Yuchen Guo, **Toby Jia-Jun Li**, and Simon Perrault
CSCW'23 Companion: Companion Publication of the 2023 Conference on Computer Supported Cooperative Work and Social Computing

[L.8] **Designing for AI-Powered Social Computing Systems**
Gionnieve Lim, Hyunwoo Kim, Yoonseo Choi, **Toby Jia-Jun Li**, Chinmay Kulkarni, Hariharan Subramonyam, Joseph Seering, Michael S. Bernstein, Amy X. Zhang, Elena Glassman, Simon Perrault, and Juho Kim
CSCW'23 Companion: Companion Publication of the 2023 Conference on Computer Supported Cooperative Work and Social Computing

[L.7] **Shaping the Emerging Norms of Using Large Language Models in Social Computing Research**
Hong Shen, Tianshi Li, **Toby Jia-Jun Li**, Joon Sung Park, and Diyi Yang
CSCW'23 Companion: Companion Publication of the 2023 Conference on Computer Supported Cooperative Work and Social Computing

[L.6] **SHAI 2023: Workshop on Designing for Safety in Human-AI Interactions**
Nitesh Goyal, Sungsoo Ray Hong, Regan Mandryk, **Toby Jia-Jun Li**, Kurt Luther, and Dakuo Wang
IUI 2023 Companion: The 28th ACM Conference on Intelligent User Interfaces

[L.5] **The Future of Computational Approaches for Understanding and Adapting User Interfaces**
Yue Jiang, Yuwen Lu, Christof Lutteroth, **Toby Jia-Jun Li**, Jeffrey Nichols, and Wolfgang Stuerzlinger
Extended Abstracts of the 2023 ACM Conference on Human Factors in Computing Systems (CHI EA '23)

[L.4] **Computational Approaches for Understanding, Generating, and Adapting User Interfaces**
Yue Jiang, Yuwen Lu, Jeffrey Nichols, Wolfgang Stuerzlinger, Chun Yu, Christof Lutteroth, Yang Li, Ranjitha Kumar, and **Toby Jia-Jun Li**
Extended Abstracts of the 2022 ACM Conference on Human Factors in Computing Systems (CHI EA '22)

[L.3] **Bridging the Gap Between UX Practitioners' Work Practices and Machine-Learning-Enabled Design Support Tools**
Yuwen Lu, Chengzhi Zhang, Iris Zhang, and **Toby Jia-Jun Li**
Extended Abstracts of the 2022 ACM Conference on Human Factors in Computing Systems (CHI EA '22)

[L.2] **How End Users Express Conditionals in Programming by Demonstration for Mobile Apps**
Marissa Radensky, **Toby Jia-Jun Li**, and Brad A. Myers
IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2018) Poster Track

[L.1] **End User Mobile Task Automation using Multimodal Programming by Demonstration**
Toby Jia-Jun Li
IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2017) Graduate Consortium

Book Sections

[B.3] **Demonstration + Natural Language: Multimodal Interfaces for GUI-based Interactive Task Learning Agents**
Toby Jia-Jun Li, Tom M. Mitchell, and Brad A. Myers
Chapter of *Artificial Intelligence for Human Computer Interaction: A Modern Approach.* Springer. 2021.

[B.2] **Teaching Agents When They Fail: End User Development in Goal-Oriented Conversational Agents**
Toby Jia-Jun Li, Igor Labutov, Brad A. Myers, Amos Azaria, Alexander Rudnicky, and Tom M. Mitchell
Chapter of *Studies in Conversational UX Design.* Springer. 2018.

[B.1] **Making End User Development More Natural**
Brad A. Myers, Amy Ko, Chris Scaffidi, Stephen Oney, YoungSeok Yoon, Kerry Chang, Mary Beth Kery, and **Toby Jia-Jun Li**
Chapter of *New Perspectives in End-User Development*. Springer. 2017.

Patents

[P.1] **Automatically Generating Conversational Services from a Computing Application**
Oriana Riva, Jason Kace, Doug Burger, and **Toby Jia-Jun Li**
U.S. Patent 10,705,892. Granted July 7, 2020; Filed June 7, 2018.

Relevant Research Experience

Engineering Implementation Consultant Aug. 2017–Dec. 2017
Research Intern May. 2017–Aug. 2017
Microsoft Research, Redmond, WA
Mentor: Dr. Oriana Riva

Research Assistant Jan. 2013–Aug. 2015
GroupLens Research, University of Minnesota

Teaching Experience

Co-Instructor (with Julia Qian), *MOR 40101: Moreau Senior Capstone (Lab Section)* Spring 2027
Moreau Program, University of Notre Dame

Instructor, *CSE 40748/60748: Human-AI Collaborative Systems* Spring 2024–2026
Department of Computer Science and Engineering, University of Notre Dame

Instructor, *CSE 40424: Human-Computer Interaction* Spring 2023
Department of Computer Science and Engineering, University of Notre Dame

Instructor, *CSE 60427: Human-Centered Computing Research* Fall 2021–2026
Department of Computer Science and Engineering, University of Notre Dame

Teaching Assistant, *05-391 / 05-891: Designing Human-Centered Software* Spring 2019
Human-Computer Interaction Institute, Carnegie Mellon University

Teaching Assistant, *05-410 / 05-610: User-Centered Research & Evaluation* Fall 2018
Human-Computer Interaction Institute, Carnegie Mellon University

Teaching Staff, *CSCI 5715: From GPS and Google Maps to Spatial Computing* Fall 2014
Coursera MOOC & Dept. of Computer Science and Engineering, Univ. of Minnesota

Teaching Assistant, *CSCI 2011: Discrete Structures of Computer Science* Fall 2013, Spring 2014
Department of Computer Science and Engineering, University of Minnesota

Students Advised after joining Notre Dame

Doctoral Students

Yukun Yang (Ph.D. in CSE) 2026–Present

Yinuo Yang (Ph.D. in CSE) 2025–Present

Sumin Hong (Ph.D. in CSE) 2024–Present

Ningzhi Tang (Ph.D. in CSE) 2023–Present

🏆 **Edison Innovation Fellowship**

Chaoran Chen (Ph.D. in CSE, first position Postdoc at Johns Hopkins) 2022–2026

Simret Araya Gebreegziabher (Ph.D. in CSE, first position Postdoc at CMU) 2022–2026

🏆 **IBM Ph.D. Fellowship**

Zheng Zhang (Ph.D. in CSE, first position Applied Scientist at Adobe) 2022–2025

Yuwen Lu (Ph.D. CSE, currently Head of Research at Contra Labs) 2021–2025

🏆 **Lucy Graduate Scholar**

Zheng Ning (Ph.D. in CSE, first position Applied Scientist at Amazon) 2021–2025

Postdoctoral Scholars

Anindya Das Antar (Postdoctoral Fellow, Lucy Family Institute for Data & Society) 2025–Present

Doctoral Thesis Committee at Notre Dame

Johanna Olesk (Ph.D. in CSE) Expected Graduation in 2027

Robert Wallace (Ph.D. in CSE) Expected Graduation in 2027

Kuangshi Ai (Ph.D. in CSE) Expected Graduation in 2027

Xueyang Li (Ph.D. in CSE) Expected Graduation in 2027

Tianyu Yang (Ph.D. in CSE) Expected Graduation in 2027

Gelei Xu (Ph.D. in CSE) Expected Graduation in 2027

Zheyuan Zhang (Ph.D. in CSE) Expected Graduation in 2027

Hy Dang (Ph.D. in CSE) Expected Graduation in 2027

Ozioma Oguine (Ph.D. in CSE) Expected Graduation in 2027

Emelia Hughes (Ph.D. in CSE) Expected Graduation in 2027

Yunhao Xing (Ph.D. in CSE) Expected Graduation in 2027

Charles Chiang (Ph.D. in CSE) Expected Graduation in 2027

Zehong Wang (Ph.D. in CSE) Expected Graduation in 2027

Chihiro Taguchi (Ph.D. in CSE) Expected Graduation in 2027

Agnieszka Marczak-Czajka (Ph.D. in CSE) Expected Graduation in 2027

Bang Nguyen (Ph.D. in CSE) Expected Graduation in 2027

Mohammed Almutairi (Ph.D. in CSE) Expected Graduation in 2026

Brianna Wimer (Ph.D. in CSE, first position Postdoc at Cornell Tech) Graduated in 2026

Ken Sible (Ph.D. in CSE) Expected Graduation in 2026

Adnan Hoq (Ph.D. in CSE) Expected Graduation in 2026

Chia-Yi Su (Ph.D. in CSE, first position Postdoc at York University) Graduated in 2026

Mengxia Yu (Ph.D. in CSE)	Graduated in 2026
Theodore Chambers (Ph.D. in CSE)	Expected Graduation in 2026
Aarohi Srivastava (Ph.D. in CSE)	Expected Graduation in 2026
Lingbo Tong (Ph.D. in CSE and Psychology, first position Assistant Professor at University of Wisconsin–Madison)	Graduated in 2025
Qianlong Wen (Ph.D. in CSE, first position at TikTok)	Graduated in 2025
Zhihan Zhang (Ph.D. in CSE, first position Applied Scientist at Amazon)	Graduated in 2025
Joe Germino (Ph.D. in CSE, first position at Chicago Cubs)	Graduated in 2025
Oghenemaro (Maro) Anuyah (Ph.D. in CSE, first position Researcher at Microsoft)	Graduated in 2025
Aakash Bansal (Ph.D. in CSE, first position Assistant Professor at LSU)	Graduated in 2024
Gonzalo Martinez (Ph.D. in CSE, first position at John Deere)	Graduated in 2022
Sakib Haque (Ph.D. in CSE, first position at Qualtrics)	Graduated in 2022

External Thesis Committee

Xinyi Zhang (Ph.D in Computer Science, Virginia Tech)	Expected Graduation in 2027
Mingyue Yuan (Ph.D in Computer Science, U. of New South Wales)	Graduated in 2026
Minhyuk Ko (Ph.D in Computer Science, Virginia Tech)	Expected Graduation in 2026
Hyungyu Shin (Ph.D, School of Computing, KAIST, currently CTO at AlgorithmLabs)	Graduated in 2025
Sangwook Lee (M.S., School of Computing, KAIST, first position Ph.D. Student at Virginia Tech)	Graduated in 2023

Undergraduate Students

Allie Sproul (B.S. in CS)	2026
Jenna Beckley (B.S. in CS)	2026
Alfonso Alcaraz Moreno (B.S. in CS)	2025–2026
David Meininger (B.S. in CS)	2025
Louis Cao (B.S. in CS)	2025–2026
Brandon Forseth (B.S. in CS)	2025
Rene Alzina (B.S. in CS)	2025
Biruk Molla (B.S. in CS)	2025
Leyang Li (B.S. in CS, first position Ph.D. student at Johns Hopkins)	2024–2026
Aynaz Namik (B.S. in CS)	2024–2025
Xavier Briggs (B.S. in CS)	2024–2025
Matthew McCollum (B.A. in Econ. and Data Sci., first position Fulbright Scholar)	2024–2025
Mykhaylo Severinov (Ivy Tech, CS)	2024–2025
Luke Cao (B.S. in CS, first position at Google)	2023–2025
Yewon Oh (B.S. in CS, first position at Apple)	2024
Tori Banda (B.S. in CS)	Summer 2023
Ava DeCroix (B.A. in CS, first position at Visa)	2023
Tommy Rozgonyi (B.S. in CS)	2022

Michael Bsales (B.A. in CS, first position at Carbon Accountant) 2022

Ryan Pairitz (B.S. in CS, first position at Pruun) 2022

Jerrick Ban (B.S. in CS, first position at Pariveda Solutions) 2022–2023

Ziang Tong (B.S. in CS, first position at Amazon) 2022–2024

Victor Cox (B.S. in CS, first position at Capital One) 2021–2022

Meng Chen (B.S. in CS and Philosophy, first position Ph.D. student at UC Berkeley) 2021–2024

Visiting Students

Xujia Liu (University of Washington) Summer 2026

Jiawen Liu (Fudan University) Summer 2026

Bo Sun (Northeastern University) Summer 2026

Kexue Fu (Visiting Ph.D. student from the City University of Hong Kong) Summer and Fall 2025

Jingyu Tang (Huazhong University of Science and Technology, first position Ph.D. student at UT Austin) Summer 2025

Zixin Guo (University of Cambridge, first position M.S. student at UC Berkeley) Summer 2025

Jiawen Li (University of Michigan, first position Ph.D. student at Purdue) Summer 2025

Yan Xu (Nanjing University, first position M.S. student at UCSD) Summer 2024

Tianlu Zhou (Tsinghua University, first position M.S. student at U. Washington) Summer 2024

Zichu Wang (Carnegie Mellon University) Summer 2024

Yukun Yang (Tongji University, first position Ph.D. student at Notre Dame) Summer 2024

Kuangshi Ai (Fudan University, first position Ph.D. student at Notre Dame) Summer 2023

Wenxin Song (Chinese U. of HK., first position M.S. student at Columbia) Summer 2023

Keyi Chen (UCSD, first position M.S. student at CMU) Summer 2023

Qianhui Zhao (Beijing U. of Chem. Tech., first position M.S. student at CMU) Summer 2023

Haoming Ma (Sun Yat-sen University, first position M.S. student at Columbia) Summer 2023

Sangwook Lee (Visiting M.S. student from KAIST, first position Ph.D. student at Virginia Tech) Summer 2023

Weijun Li (Visting M.S. student from Zhejiang University, first position Ph.D. student at UC Irvine) Summer 2023

Jie Gao (Visiting Ph.D. student from Singapore U. of Tech. and Design, first position Postdoc at Singapore-MIT Alliance for Research and Technology) Spring 2023

Yuewen Yang (NYU, now Ph.D. student at Cornell) Summer 2022

Yihao Meng (Xi'an Jiaotong University, first position Ph.D. student at HKUST) Summer 2022

Chao Zhang (Zhejiang University, first position Ph.D. student at Cornell) Summer 2022

Xiaohang Tang (Liverpool University, first position Ph.D. student at Virginia Tech) Summer 2022

Ningzhi Tang (SUSTech, first position Ph.D. student at Notre Dame) Summer 2022

Students Mentored Prior to Notre Dame

Tiffany Cai (CMU, first position at Google X) Spring 2017
- *Worked on a new mobile keyboard for recording text entries in demonstration.*

Jeremy Wei (CMU, first position at Flatiron Health) Spring 2017

- *Worked on identifying crucial actions in demonstrated scripts.*

Xiaohan Nancy Li (CMU, first position at Microsoft) Fall 2017
- *Worked on representing and querying snapshots of mobile GUIs.*

Wenze Shi (CMU, first position at Facebook) Spring 2018
- *Worked on extracting semantic entities from mobile GUIs.*

Wanling Ding (CMU, first position at Shopee) Spring 2018
- *Worked on generating user friendly representations for demonstrated scripts.*

Marissa Radensky (Amherst College, REU at CMU, first position Ph.D. student at UW) Summer 2018
- *Worked on supporting conditionals in programming by demonstration.*

Justin Jia (CMU, first position at Citadel) Spring 2019
- *Worked on semantic parsing for concept instructions.*

Kirielle Singarajah (CMU, first position at Google) Spring 2019
- *Worked on semantic parsing for concept instructions.*

Brandon Canfield (Yale University, REU at CMU) Summer 2019
- *Worked on enabling privacy-preserving sharing of end user developed scripts.*

William Timkey (Cornell University, REU at CMU, first position Ph.D. student at NYU) Summer 2019
- *Worked crowd-sourced data collection for semantic parsers.*

Jingya Chen (CMU, first position at MIT, now at Microsoft Research) Summer 2019–2020
- *Worked on multi-modal error handling for speech interfaces.*

Lindsay Popowski (Harvey Mudd, REU at CMU, first position Ph.D. student at Stanford) Summer 2020
- *Worked on the semantic embedding of GUI screens and components*.
🏆 CRA 2021 Outstanding Undergraduate Researcher Award

Vanessa Hu (Harvard University, REU intern at CMU) Summer 2020
- *Worked on the fuzzy lexicon matching and time expression parsing in semantic parsers.*

Selected Talks, Panels, and Seminars

[T.24] **Reflective Agency in Human-AI Interaction**
Invited Keynote at Pre-USENIX Security Workshop, Johns Hopkins Data Science and AI Institute
Baltimore, MD, Aug. 11, 2026

[T.23] **Fostering User Reflection in Evaluating and Aligning Agents**
Invited Keynote at CHI 2026 Workshop on Human-Centered Evaluation and Auditing of Language Models (HEAL)
Host: Willem van der Maden
Barcelona, Spain, Apr. 15, 2026

[T.22] **Human Agency in the Age of AI**
Invited Seminar at the Martha Chan Lecture Series
Virtual Talk, Dec. 17, 2025

Invited Seminar at the 2026 Faith and Learning Symposium, Toah Nipi Christian Retreat Center
Rindge, NH, Jul. 23, 2026

[T.21] **From Access to Agency in Information for BLV Users**
Invited Talk at ICCV 2025 Workshop on Vision Foundation Models and Generative AI for Accessibility: Challenges and Opportunities (CV4A11y)
Virtual Talk, Oct. 20, 2025

[T.20] **Towards Trustworthy GUI Agents Against Adversarial Misalignment**
Invited Talk at UIST 2025 Workshop on Intelligent Agents in Next-Generation Operating Systems
Busan, Korea, Sep. 28, 2025

[T.19] **Human Agency and Human-AI Alignment**
Invited Talk at the Notre Dame Summit on AI, Faith, and Human Flourishing
South Bend, IN, Sep. 23, 2025

[T.18] **Privacy, Security, and Safety in Digital Space**
Invited Seminar and Interactive Exhibition at Smithsonian National Museum of Natural History
Co-Presenters: Yaxing Yao (Johns Hopkins) and Julia Qian (Notre Dame)
Host: Marion Le Voyer
Washington, DC, Jul. 18, 2025

[T.17] **Human-Centered AI Applications in Early Childhood Education**
Invited Seminar at Children's Learning Institute, University of Texas Health Science Center at Houston
Host: Tricia A. Zucker
Virtual Visit, Apr. 17, 2025

[T.16] **Beyond Instructions and Intentions: Surfacing User Preferences and Values in Human-AI Alignment**
Invited Seminar at IBM Research Human-Centered AI Speaker Series
Host: Michelle Brachman and Heloisa Candello
Virtual Visit, Apr. 14, 2025

Invited Seminar at Pontificia Universidad Católica de Chile
Host: Domingo Mery and Denis Perra
Santiago, Chile, Jun. 3, 2025

[T.15] **Past & Future of Intelligent and Intelligence-Augmenting Interfaces**
Invited Panel at Human Computer Interaction Consortium (HCIC '24)
Co-Panelists: Elena Glassman and Jonathan Grudin
Delavan, WI, Jun. 19, 2024

[T.14] **Fight Fire with Fire: AI Empowerment for Users Against Oppressive Algorithms**
Invited William Field Pierson Lecture, Princeton University
Host: Andrés Monroy-Hernández
Princeton, NJ, Apr. 2, 2024

[T.13] **Beyond "Thin Wrapper" in Human-AI Co-Creation**
Invited Talk at Adobe Research
Host: Cuong Nguyen and Ding Li
Virtual Visit, Nov. 28, 2023

Invited Seminar at Singapore Management University
Host: Yong Wang
Singapore, SG, Dec. 11, 2023

[T.12] **Human-AI Collaboration for Ambiguities, Uncertainties, and Evolving Objectives**
Invited Keynote at the *ICML 2023 Workshop on Artificial Intelligence & Human Computer Interaction*
Honolulu, HI, Jul. 29, 2023

[T.11] **A Bottom-Up Approach to Empower Gig Workers against AI Inequality**
Invited Seminar at HCI Summer Workshop at School of Information Studies, Syracuse University
Host: EunJeong Cheon
Virtual Visit, Aug. 4, 2022

[T.10] **End User Empowerment through Human-AI Collaboration**
Invited Seminar at HCI Group, Princeton University
Host: Andrés Monroy-Hernández
Virtual Visit, Jun. 17, 2022

[T.9] **Human-AI Collaboration in Data Annotation**
Invited Talk at Elevance Health/Anthem
Host: Adarsh Ramesh
Virtual Visit, Nov. 16, 2022

Invited Talk at IBM Research Almaden
Host: Lucian Popa and Dakuo Wang
Virtual Visit, Apr. 22, 2022

[T.8] **Screen2Vec: Semantic Embedding of GUI Screens and What They are Useful for**
Invited Talk at HCI Group, Stanford University
Host: Michael Bernstein
Virtual Visit, Feb. 22, 2021

[T.7] **Interactive Systems for Configuring, Extending, and Developing AI Applications**
Invited Talk at Apple Research
Host: Jeff Nichols
Virtual Visit, Mar. 8, 2021

Invited Talk at HCI Lab, Hasso Plattner Institut
Host: Patrick Baudisch
Virtual Visit, Mar. 4, 2021

Invited Talk at Sigma Research Seminar Series
Host: Çağatay Demiralp
Virtual Visit, Feb. 24, 2021

Invited Talk at Microsoft Research Montréal
Host: Adam Trischler
Virtual Visit, Jan. 11, 2021

Invited Talk at Google People + AI Research (PAIR) Seminar
Host: Carrie Cai
Virtual Visit, Oct. 13, 2020

Invited Talk at IBM Research Cambridge
Host: Casey Dugan
Virtual Visit, Aug. 12, 2020

[T.6] **Interactive Task Learning from GUI-Grounded Natural Language Instructions and Demonstrations**
Invited Talk at Apple Research
Host: Jeff Nichols
Virtual Visit, Dec. 7, 2022

Invited Talk at *the AAAI-20 Workshop on Intelligent Process Automation (IPA-20)*
New York, NY, Feb. 7, 2020

[T.5] **Machine Learning from Human Instruction: Every Person a Programmer**
Invited Talk at J.P. Morgan (*with Forough Arabshahi*)
Host: Sumitra Ganesh and Denis Kochedykov
New York, NY, May 24, 2019

[T.4] **Teaching Intelligent Agents New Tricks: Natural Language Instructions plus Programming-by-Demonstration for Teaching Tasks**
Invited Talk at *Human Computer Interaction Consortium (HCIC '18)* (*with Brad Myers*)
Watsonville, CA, Jun. 25, 2018

[T.3] **SUGILITE: A Multi-Modal Agent that Learns Tasks from Natural Language and Demonstrations**
Invited Demo at *the ACL 2020 Workshop on Natural Language Interfaces*
Seattle, WA. July 10, 2020

Invited Demo at *the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2019)*
Pittsburgh, PA, Oct. 28, 2019

Invited Lightning Talk at CMU HCII 25th Anniversary
Pittsburgh, PA, Oct. 25, 2019

Invited Talk at Oath (formerly Yahoo!)
Sunnyvale, CA, May 30, 2018

[T.2] **Atlasify – The Geography of Everything**
Invited Demo at *the 3M Science and Engineering Symposium*
St Paul, MN, Jun. 25, 2015

Invited Demo at *the Social Media and Business Analytics Collaborative (SOBACO) Research Symposium*
Minneapolis, MN, May 14, 2015

[T.1] **WikiBrain: Making Computer Programs Smarter with Knowledge from Wikipedia**
Invited Demo at *the Social Media and Business Analytics Collaborative (SOBACO) Research Symposium*
Minneapolis, MN, May 6, 2014

Invited Guest Lectures

Human-AI Co-Creation Fall 2023, Spring 2024
CDT 30750 Generative AI in the Wild
Host: John Behrens and Ranjodh Singh Dhaliwal
University of Notre Dame, Computing and Digital Technologies

Interactive Task Learning Spring 2023
CSE 599H: Artificial Intelligence (AI) vs Intelligence Augmentation (IA)
Host: Ranjay Krishna
University of Washington, Department of Computer Science and Engineering

AI Inequality in Gig Work Fall 2022
HIST 30951: Just Wage Research
Host: Dan Graff
University of Notre Dame, Department of History

Human-AI Collaborative Systems Spring 2022
EECS 598: Human-AI Interaction and Systems
Host: Anhong Guo
University of Michigan, Department of Computer Science and Engineering

Human-AI Collaborative Systems Fall 2021

CS 228 Human-Computer Interaction
Host: Yuanyuan Feng
University of Vermont, Department of Computer Science

Toolkits for Creating Conversational Interfaces Fall 2020
05-830: Advanced User Interface Software
Host: Brad Myers
Carnegie Mellon University, Human-Computer Interaction Institute

Professional Service

Academic Service

Organizing Committee

HAIC 2027 General Chair
ACM IUI 2025 General Chair
ACM IUI 2025 Most Impact Paper Awards Selection Committee Member
IEEE VL/HCC 2025 Workshops and Showpieces Chair
CHIWORK 2023 Program Chair
ACM CSCW 2023 Demo Chair
ACM UIST 2021 Web and Design Chair

Workshop Organizer

UIST 2026 Workshop on Revibing HCI: Agentic Reimplementation as Community Practice
CSCW 2026 Workshop on AI-Enabled Fraudulent Participation in Human-Subjects Research
COLM 2026 Workshop on Human-Centered Privacy and Security for Language Models (HAIPS 2026)
Member of Advisory Board, NeurIPS 2026 Workshop on Interpreting Agent Behavior
CHI 2026 Workshop on From Human-Human Collaboration to Human-Agent Collaboration
IUI 2026 Workshop on Trustworthy Computer-Using Generalist Agents for Intelligent User Interfaces
CSCW 2025 Workshop on Critical Futures of Work
CCS 2025 Workshop on Human-Centered AI Privacy and Security (HAIPS 2025)
CSCW 2024 Workshop on Challenges and Opportunities of LLM-Based Synthetic Personae and Data in HCI
CHI 2024 Workshop on Computational Approaches for User Interfaces
CHI 2023 Workshop on Computational Approaches for User Interfaces
IUI 2023 Workshop on Designing for Safety in Human-AI Interactions (SHAI 2023)
CHI 2022 Workshop on Computational Approaches for User Interfaces

Special Interest Group (SIG) Organizer

CSCW 2023 SIG on Designing for AI-Powered Social Computing Systems
CSCW 2023 SIG on Shaping the Emerging Norms of Using LLMs in Social Computing Research

Associate Chair (AC) of Program Committee

ACM CHI 2022-2026
ACM UIST 2021-2026
ACM CHI 2020 Late Breaking Work Track
ACM CHI 2019 Late Breaking Work Track

Member of Program Committee

ACM CHI 2027 Meet-Ups Juror
The 16th Annual Workshop on the Intersection of HCI and PL (PLATEAU 2026)
FSE 2026 Workshop on Human-Centered AI for SE (HumanAISE 2026)
UIST 2025 Paper Award Committee
FSE/ISSTA 2025 Workshop on Human-Centered AI for SE (HumanAISE 2025)
EMNLP 2022 Workshop on Data Science with Human in the Loop (DaSH 2022)

EMNLP 2021
KDD 2021 Workshop on Data Science with Human in the Loop (DaSH 2021)
ACL 2021 Workshop on NLP for Programming (NLP4Prog)
AAAI 2020 Workshop on Intelligent Process Automation (IPA 20)

Session Chair

ACM UIST 2026 Session on *Directing and Adapting AI*
ACM CHI 2026 Session on *AI Governance and Accountability*
ACM UIST 2025 Session on *Programming*
ACM UIST 2024 Session on *AI and Automation*
ACM CSCW 2023 Session on *Human-AI Collaboration*
ACM CHI 2023 Session on *Tools for Data Scientists and Literature Reviews*
CHIWORK 2022 Session on *Remote Work*
ACM CHI 2022 Session on *Interacting with Data* and Journal Session on *Context and the Interface*
ACM UIST 2021 Session on *Alternative Programming*
ACM CHI 2019 Session on *Conversational Interactions*

Conference Reviewing

ACM CHI (2017-2027), **ACM UIST** (2017-2026), **ACM CSCW** (2018-2026), **ACL** (2021), **ACM DIS** (2018-2021), **ACM MobileHCI** (2018-2020), **ACM TEI** (2018), **ACM SIGCSE** (2018), **ACM CHI PLAY** (2019)

Received "special recognitions" for outstanding reviews for ACM UIST 2017, ACM CHI 2018, ACM DIS 2020, ACM CHI 2021 (twice), ACM UIST 2022, ACM CSCW 2022, and ACM CHI 2024.

Journal Reviewing and Editing

Member of Editorial Board: ACM AI Letters (2025-)

Reviewer: ACM TOCHI (2021-2026), **ACM IMWUT** (2017-2020), **ACM TOSEM** (2022-2023), **IEEE TMC** (2018, 2022), **IEEE TSC** (2020), **IEEE Pervasive** (2018-2019), **IJGIS** (2017), **IEEE Access** (2019-2020), **Collective Intelligence** (2023), **ACM Comput. Surv.** (2025), **PNAS** (2026), **Commun. ACM** (2026)

Grant Proposal Reviewer/Panelist

Panelist, U.S. National Science Foundation (NSF) CISE (2022, 2024, 2025)
External Reviewer, Israel Science Foundation (ISF) (2025)
Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC) (2025)
External Expert Referee, Italian Ministry of University and Research (MUR) (2022)
Reviewer, Indiana Clinical and Translational Sciences Institute (CTSI) (2021)

University, Departmental and Community Service

Committee Chair, Notre Dame CSE Faculty Search Committee (2026-2027)
Faculty Lead (with Tim Weninger), Workgroup on Pragmatic Design and Engineering of Human-Centered RISE AI Technologies, Data, AI, and Computing Initiative at the University of Notre Dame (2026)
Workgroup Member, Workgroup on Culture and Interculturality in AI for Understanding Our Past and Setting Course for Our Future, Data, AI, and Computing Initiative at the University of Notre Dame (2026)
Committee Member, Notre Dame CSE Faculty Search Committee (2025-2026)
Speaker and Panelist, Notre Dame-IBM Technology Ethics Lab Tech Ethics Forum (2025)
Committee Member, Notre Dame CSE Seminar Committee (2024-2025)
Committee Member, Notre Dame CSE Diversity, Equity, and Inclusion (DEI) Committee (2022-2024)
Faculty Leader, Notre Dame's Participation in TAPIA Conference of Diversity in Computing (2021-2024)
Committee Member, Notre Dame CSE Ph.D. Admissions Committee (2021-2024)
Research Presentation Co-Chair, Notre Dame Trustworthy AI Lab for Education Summit (2023)
Committee Member, Lucy Family Institute Graduate Scholar Selection Committee (2022)

Member, CMU HCII Anti-Racism Work Group (2020-2021)
Coordinator, CMU HCII Open House Faculty Research Talks (2020-2021)
Committee Member, CMU HCII Faculty Lunch Organization Committee (2019-2020)
Committee Member, CMU HCII Ph.D. Student Lounge Committee (2019-2020)
Committee Member, CMU HCII Ph.D. Admissions Committee (2018-2019)
Student Volunteer, ACM IUI 2019, ACM SIGSPATIAL 2014

Selected Press Coverage

Notre Dame College of Engineering News: "Notre Dame and Johns Hopkins team up to bring digital privacy and AI literacy education to the Smithsonian" (2025)
Johns Hopkins HUB: "Computer scientists put privacy research on display" (2025)
Notre Dame News: "AI browser plug-ins to help consumers improve digital privacy literacy, combat manipulative design" (2024)
WSBT 22 News: "Google knows a lot': Apps and companies tracking your online activity" (2024)
AAAS EurekAlert: "AI browser plug-ins to help consumers improve digital privacy literacy, combat manipulative design" (2024)
Quantum Zeitgeist: "AI Tools Combat Online Exploitation: Notre Dame's Privacy Sandbox and Dark Pita Unveiled" (2024)

Languages

English – Native or bilingual proficiency, **Chinese (Mandarin)** – Native or bilingual proficiency

Technical Skills

Programming Languages: C/C++, Java, Python, Android, JavaScript, SQL, HTML and others
UX Skills: Qualitative Research, Quantitative Research, Experiment Design, Data Analysis, UX Design
Keywords: Machine Learning, Deep Learning, Natural Language Processing, Dialog Systems, Conversational UX