Minqian Liu

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Research Summary

My research primarily focuses on **evaluating** and **improving** large language models and vision-language models in diverse real-world scenarios, from *AI safety*, *natural language generation*, *interleaved text-and-image generation*, to *continual learning*. Totally, I have 15 peer-reviewed publications along these directions, including 8 (co-)first-author papers in top-tier venues such as ICLR, ICML, ACL, EMNLP, NAACL, COLM, AAAI, etc. I was a core member of Team HokieBot which won **Third Place** in the Scientific Innovation Competition in Alexa Prize SocialBot Grand Challenge 5, where my work [5] was part of the key innovations.

Education

Virginia Tech   **Blacksburg, USA**
Ph.D. Student in Computer Science   *Aug. 2021-May 2026 (expected)*
- Advisor: Lifu Huang
- Thesis Committee: Dawei Zhou, Sebastian Gehrmann, Naren Ramakrishnan, Chris North, Chang-Tien Lu

South China University of Technology (SCUT)   **Guangzhou, China**
B.Eng. in Computer Science and Technology   *Sept. 2017-Jun. 2021*
- Advisor: Mingkui Tan

University of California, Berkeley   **Berkeley, USA**
Visiting Student   *Jan. 2019-May 2019*

Employment

Bloomberg CTO Office   **New York, USA**
Research Intern   *Jun. 2025-Sept. 2025*
- Mentor: Mark Dredze and Sebastian Gehrmann
- Topic: Domain Generalizable AI Guardrails with Augmented Policy Training

Microsoft Research   **Redmond, USA**
Research Intern   *May 2024-Aug. 2024*
- Manager: Dinei Florencio
- Topic: In-context Learning for Visual Prompting with Vision-Language Models

Amazon AWS AI   **New York, USA**
Applied Scientist Intern   *May 2023-Aug. 2023*
- Manager: Patrick Ng
- Topic: Evaluation for Conversational Agents as Database Interfaces

Highlighted Papers

(*: Equal contribution)

LLMs Can be a Dangerous Persuader: **Empirical Study of Persuasion Safety with Large Language Models**
- **Minqian Liu**, Zhiyang Xu, Sarvech Qadir, Heajun An, Qi Zhang, Pamela Wisnieswski, Jin-Hee Cho, Ruoxi Jia, Lifu Huang
- In *COLM 2025*.

Modality-Specialized Synergizers for Interleaved Vision-Language Generalists
- **Minqian Liu***, Zhiyang Xu*, Ying Shen, Joy Rimchala, Jiaxin Zhang, Qifan Wang, Yu Cheng, Lifu Huang.
- In *ICLR 2025*.

Domain Generalizable AI Guardrails with Augmented Policy Training
- **Minqian Liu**, Ioana Baldini, David Rabinowitz, David S Rosenberg, Sebastian Gehrmann, Mark Dredze.
- In submission to *ACL 2026*.

X-Eval: Generalizable Multi-aspect Text Evaluation via Augmented Instruction Tuning with Auxiliary Evaluation Aspects
- **Minqian Liu**, Ying Shen, Zhiyang Xu, Yixin Cao, Eunah Cho, Vaibhav Kumar, Reza Ghanadan, Lifu Huang.
- In *NAACL* (*Main*), 2024.
- Won **Third Place** in the Scientific Innovation Competition in Alexa Prize SocialBot Grand Challenge 5.

Holistic Evaluation for Interleaved Text-and-Image Generation
- **Minqian Liu**, Zhiyang Xu, Zihao Lin, Trevor Ashby, Joy Rimchala, Jiaxin Zhang, Lifu Huang.
- In *EMNLP* (*Main*), 2024.

Full Publications

(*: Equal contribution)

Peer-Reviewed

[1] **Modality-Specialized Synergizers for Interleaved Vision-Language Generalists**
- **Minqian Liu***, Zhiyang Xu*, Ying Shen, Joy Rimchala, Jiaxin Zhang, Qifan Wang, Yu Cheng, Lifu Huang.
- In *ICLR 2025*.

[2] *LLMs Can be a Dangerous Persuader:* **Empirical Study of Persuasion Safety with Large Language Models**
- **Minqian Liu**, Zhiyang Xu, Sarvech Qadir, Heajun An, Qi Zhang, Pamela Wisnieswski, Jin-Hee Cho, Ruoxi Jia, Lifu Huang
- In *COLM 2025*.

[3] **ReFocus: Visual Editing as a Chain of Thought for Structured Image Understanding**
- Xingyu Fu, **Minqian Liu**, Zhengyuan Yang, John Richard Corring, Yijuan Lu, Jianwei Yang, Dan Roth, Dinei Florencio, Cha Zhang
- In *ICML 2025*.

[4] **Holistic Evaluation for Interleaved Text-and-Image Generation**
- **Minqian Liu**, Zhiyang Xu, Zihao Lin, Trevor Ashby, Joy Rimchala, Jiaxin Zhang, Lifu Huang.
- In *EMNLP* (*Main*), 2024.

[5] **X-Eval: Generalizable Multi-aspect Text Evaluation via Augmented Instruction Tuning with Auxiliary Evaluation Aspects**
- **Minqian Liu**, Ying Shen, Zhiyang Xu, Yixin Cao, Eunah Cho, Vaibhav Kumar, Reza Ghanadan, Lifu Huang.
- In *NAACL* (*Main*), 2024.

[6] **Teamwork Is Not Always Good: An Empirical Study of Classifier Drift in Class-incremental Information Extraction**
- **Minqian Liu**, Lifu Huang.
- In *ACL* (*Findings*), 2023.

[7] **MultiScript: Multimodal Script Learning for Supporting Open Domain Everyday Tasks**
- **Minqian Liu***, Jingyuan Qi*, Ying Shen, Zhiyang Xu, Lifu Huang.
- In *AAAI*, 2024.

[8] **Incremental Prompting: Episodic Memory Prompt for Lifelong Event Detection**
- **Minqian Liu**, Shiyu Chang, Lifu Huang.
- In *COLING*, 2022.

[9] **The Art of SOCRATIC QUESTIONING: Recursive Thinking with Large Language Models**
- Jingyuan Qi*, Zhiyang Xu*, Ying Shen, **Minqian Liu**, Di Jin, Qifan Wang, Lifu Huang.
- In *EMNLP* (*Main*), 2023.

[10] **MetaScientist: A Human-AI Synergistic Framework for Automated Mechanical Metamaterial Design**
- Jingyuan Qi*, Zian Jia*, **Minqian Liu**, Wangzhi Zhan, Junkai Zhang, Xiaofei Wen, Jingru Gan, Jianpeng Chen, Qin Liu, Mingyu Derek Ma, Bangzheng Li, Haohui Wang, Muhao Chen, Dawei Zhou, Ling Li, Wei Wang, Lifu Huang
- In *NAACL Demo Track 2025*.

[11] **AMELI: Enhancing Multimodal Entity Linking with Fine-Grained Attributes**
- Barry Menglong Yao, Yu Chen, Qifan Wang, Sijia Wang, **Minqian Liu**, Zhiyang Xu, Licheng Yu, Lifu Huang
- In *EACL*, 2024.

[12] Towards Effective Long Conversation Generation with Dynamic Topic Tracking and Recommendation
- Trevor Ashby, Adithya Kulkarni, Jingyuan Qi, **Minqian Liu**, Eunah Cho, Vaibhav Kumar, Lifu Huang
- In *INLG*, 2024.

[13] Dynamic Extension Nets for Few-shot Semantic Segmentation
- Lizhao Liu*, Junyi Cao*, **Minqian Liu***, Yong Guo*, Qi Chen*, Mingkui Tan.
- In *ACM Multimedia*, 2020.

[14] Co-attention Network with Label Embedding for Text Classification
- **Minqian Liu***, Lizhao Liu*, Junyi Cao, Qing Du.
- In *Neurocomputing*, 2021.

[15] Progressive Dialogue State Tracking for Multi-domain Dialogue Systems
- Jiahao Wang, **Minqian Liu**, Xiaojun Quan.
- In *ICASSP*, 2021.

Preprints & Technical Reports

[16] Domain Generalizable AI Guardrails with Augmented Policy Training
- **Minqian Liu**, Ioana Baldini, David Rabinowitz, David S Rosenberg, Sebastian Gehrmann, Mark Dredze.
- In submission to *ACL 2026*.

[17] StagePilot: A Deep Reinforcement Learning Agent for Stage-Controlled Cybergrooming Simulation
- Heajun An, Qi Zhang, **Minqian Liu**, Xinyi Zhang, Sang Won Lee, Lifu Huang, Pamela J. Wisniewski, Jin-Hee Cho.
- In submission to *WWW 2026*.

[18] From Vulnerable to Resilient: Examining How Teens and Parents Respond to Protect Adolescents from Cybergrooming Advances
- Xinyi Zhang, Mamtaj Akter, Heajun An, **Minqian Liu**, Qi Zhang, Lifu Huang, Jin-Hee Cho, Pamela J. Wisniewski, Sang Won Lee.
- In submission to *CHI 2026*.

[19] Scientific Hypothesis Generation and Validation: Methods, Datasets, and Future Directions
- Adithya Kulkarni, Fatimah Alotaibi, Xinyue Zeng, Longfeng Wu, Tong Zeng, Barry Menglong Yao, **Minqian Liu**, Shuaicheng Zhang, Lifu Huang, Dawei Zhou.
- In *arXiv*, 2025.

[20] Toward Integrated Solutions: A Systematic Interdisciplinary Review of Cybergrooming Research
- Heajun An, Marcos Silva, Qi Zhang, Arav Singh, **Minqian Liu**, Xinyi Zhang, Sarvech Qadir, Sang Won Lee, Lifu Huang, Pamela Wisnieswski, Jin-Hee Cho.
- In *arXiv*, 2025.

[21] KnowledgeBot: Improving Assistive Robot for Task Completion and Live Interaction via Neuro-Symbolic Reasoning
- **Minqian Liu**, Ying Shen, Barry Menglong Yao, Sijia Wang, Jingyuan Qi, Zhiyang Xu, Lifu Huang.
- In *Alexa Prize Simbot Challenge Proceedings*, 2023.

[22] Iteratively Improving Biomedical Entity Linking and Event Extraction via Hard Expectation-Maximization
- Xiaochu Li*, **Minqian Liu***, Zhiyang Xu*, Lifu Huang.
- In *arXiv*, 2023.

[23] HokieBot: Towards Personalized Open-domain Chatbot with Long-term Dialogue Management and Customizable Automatic Evaluation
- Ying Shen, Jingyuan Qi, Sijia Wang, Barry Menglong Yao, **Minqian Liu**, Zhiyang Xu, Trevor Ashby, Lifu Huang.
- In *Alexa Prize SocialBot Grand Challenge 5 Proceedings*, 2023.
- Third Place in the Scientific Innovation Competition in Alexa Prize SocialBot Grand Challenge 5.

Honors & Awards

- **Third Place** of the Scientific Innovation Competition in Alexa Prize SocialBot Grand Challenge 5 (awarded $25,000). 2023.
- Ranked **4/10** in Public Benchmark Phase of Alexa Prize SimBot Challenge. 2022.

○ Saliai Technology Innovation Scholarship (Top 10% in Computer Science Department), SCUT. 2020.
○ Outstanding Undergraduate Overseas Study Scholarship, SCUT. 2019.

Service

○ Program Committee Member/Reviewer: ACL 2023, EMNLP 2023, ACL Rolling Review 2023-2025, AAAI 2023-2025, ICLR 2025-2026.

Teaching

○ Teaching Assistant of CS 3114: Data Structures and Algorithms, Fall 2021 & Spring 2022, Virginia Tech.