MENG JIANG, PhD
Associate Professor

University of Notre Dame
Department of Computer Science & Engineering
384 Fitzpatrick Hall
Notre Dame, IN 46556
574-631-7454
mjiang2@nd.edu
www.meng-jiang.com

EDUCATION

Doctor of Philosophy in Computer Science (2015)
Bachelor of Engineering in Computer Science (2010)
Tsinghua University, China

PROFESSIONAL APPOINTMENTS

University of Notre Dame

Director of Foundation Models Lab at Lucy Family Institute for Data and Society (*2025-Present*)
Associate Professor of Engineering *(w/ tenure)*, Computer Science and Engineering (*2023-Present*)
Assistant Professor, Computer Science and Engineering (*2017-2023*)

University of Illinois at Urbana-Champaign

Postdoctoral Research Associate, Computer Science (*2015-2017*)

RESEARCH INTERESTS

- **Foundation Model Development:** Enhancing knowledge, reasoning, and instruction-following capabilities using knowledge augmentation, self-verification, reflection, and instruction tuning.
- **Foundation Model Applications:** Novel AI technologies that learn from (semi-)structured data, tons of document/literature texts and images, to automate personalized service, scientific discovery, and healthcare.

PROFESSIONAL ACCOMPLISHMENTS & SERVICE

- **152 peer-reviewed publications** (*133 in independent career*) **h-index = 50, i-10 index = 128, Total citations = 9,616**. Recent highlights from last three years:

Knowledge-augmented Foundation Models:

- W. Yu, [...], **M. Jiang**. "Dict-BERT: Enhancing Language Model Pre-training with Dictionary" In Meetings of Association for Computational Linguistics (ACL), **2022**.
- W. Yu, [...], **M. Jiang**. "Diversifying Content Generation for Commonsense Reasoning with Mixture of Knowledge Graph Experts" In Meetings of Association for Computational Linguistics (ACL), **2022**.
- M. Yu, [...], **M. Jiang**. "Pre-training Language Models for Comparative Reasoning" In Empirical Methods on Natural Language Processing (EMNLP), **2022**.
- W. Yu, [...], **M. Jiang**. "Retrieval Augmentation for Commonsense Reasoning: A Unified Approach" In Empirical Methods on Natural Language Processing (EMNLP), **2022**.
- W. Yu, [...], **M. Jiang**. "Generate rather than Retrieve: Large Language Models are Strong Context Generators" In International Conference on Learning Representations (ICLR), **2023**.
- N. Ziems, [...], **M. Jiang**. "Large Language Models are Built-in Autoregressive Search Engines" In Findings of Association for Computational Linguistics (ACL), **2023**.

Reasoning with Foundation Models:

- Z. Wu, [...], **M. Jiang**. "Instructing Large Language Models to Identify and Ignore Irrelevant Conditions" In North American Chapter of Association for Computational Linguistics (NAACL), **2024**.
- Z. Wu, [...], **M. Jiang**. "Get an A in Math: Progressive Rectification Prompting" In Association for the Advancement of Artificial Intelligence (AAAI), **2024**.
- Z. Wu, [...], **M. Jiang**. "Large Language Models Can Self-Correct with Key Condition Verification" In Empirical Methods on Natural Language Processing (EMNLP), **2024**.
- Z. Zhu, [...], **M. Jiang**. "MultiChartQA: Benchmarking Vision-Language Models on Multi-Chart Problems" In North American Chapter of Association for Computational Linguistics (NAACL), **2025**.
- Y. Lu, [...], **M. Jiang**. "Optimizing Decomposition for Optimal Claim Verification" In Meetings of Association for Computational Linguistics (ACL), **2025**.
- Z. Wu, [...], **M. Jiang**. "Enhancing Mathematical Reasoning in LLMs by Stepwise Correction" In Meetings of Association for Computational Linguistics (ACL), **2025**.

Instruction-tuned Foundation Models:

- Z. Zhang, [...], **M. Jiang**. "Auto-Instruct: Automatic Instruction Generation and Ranking for Black-Box Language Models" In Empirical Methods on Natural Language Processing (EMNLP), **2023**.
- Z. Zhang, [...], **M. Jiang**. "Learn Beyond the Answer: Training Language Models with Reflection for Mathematical Reasoning" In Empirical Methods on Natural Language Processing (EMNLP), **2024**.
- N. Ziems, [...], **M. Jiang**. "TOWER: Tree Organized Weighting for Evaluating Complex Instructions" In Empirical Methods on Natural Language Processing (EMNLP), **2024**.
- Z. Zhang, [...], **M. Jiang**. "PLUG: Leveraging Pivot Language in Cross-Lingual Instruction Tuning" In Meetings of Association for Computational Linguistics (ACL), **2024**.
- Z. Zhang, [...], **M. Jiang**. "IHEval: Evaluating Language Models on Following the Instruction Hierarchy" In North American Chapter of Association for Computational Linguistics (NAACL), **2025**.

Personalization Foundation Models and Applications:

- Z. Tan, [...], **M. Jiang**. “Democratizing Large Language Models via Personalized Parameter-Efficient Fine-Tuning” In Empirical Methods on Natural Language Processing (EMNLP), **2024**.
- Z. Tan, [...], **M. Jiang**. “Personalized Pieces: Efficient Personalized Large Language Models through Collaborative Efforts” In Empirical Methods on Natural Language Processing (EMNLP), **2024**.
- B. Nguyen, [...], **M. Jiang**. “Reference-based Metrics Disprove Themselves in Question Generation” In Findings of Empirical Methods on Natural Language Processing (EMNLP), **2024**.
- G. Liu, [...], **M. Jiang**. “Learning Attribute as Explicit Relation for Sequential Recommendation” In SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), **2025**.
- Z. Tan, [...], **M. Jiang**. “Aligning Large Language Models with Implicit Preferences from User-Generated Content” In Meetings of Association for Computational Linguistics (ACL), **2025**.
- B. Nguyen, [...], **M. Jiang**. “QG-SMS: Enhancing Test Item Analysis via Student Modeling and Simulation” In Meetings of Association for Computational Linguistics (ACL), **2025**.

Foundation Models in AI for Science:

- G. Liu, [...], **M. Jiang**. “Semi-Supervised Graph Imbalanced Regression” In SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), **2022**.
- G. Liu, [...], **M. Jiang**. “Data-Centric Learning from Unlabeled Graphs with Diffusion Model” In Neural Information Processing Systems (NeurIPS), **2023**.
- G. Liu, [...], **M. Jiang**. “Graph Diffusion Transformer for Multi-Conditional Molecular Generation” In Neural Information Processing Systems (NeurIPS), **2024**.
- G. Liu, [...], **M. Jiang**. “Multimodal Large Language Models for Inverse Molecular Design with Retrosynthetic Planning” In International Conference on Learning Representations (ICLR), **2025**.
- G. Liu, [...], **M. Jiang**. “Learning Molecular Representation in a Cell” In International Conference on Learning Representations (ICLR), **2025**.

Foundation Model Safety:

- Z. Liu, [...], **M. Jiang**. “Towards Safer Large Language Models through Machine Unlearning” In Findings of Association for Computational Linguistics (ACL), pp. 1817-1829, **2024**.
- Z. Liu, [...], **M. Jiang**. “Protecting Privacy in Multimodal Large Language Models with MLLMU-Bench” In North American Chapter of Association for Computational Linguistics (NAACL), **2025**.
- Z. Liu, [...], **M. Jiang**. “Modality-Aware Neuron Pruning for Unlearning in Multimodal Large Language Models” In Meetings of Association for Computational Linguistics (ACL), **2025**.
- Z. Liu, [...], **M. Jiang**. “Disentangling Biased Knowledge from Reasoning in Large Language Models via Machine Unlearning” In Meetings of Association for Computational Linguistics (ACL), **2025**.

- **4 pending/issued patents**; 1 patent licensed for development by IBM; **MJ is an advisor**.
- **39 invited external talks/seminars/keynotes** during independent career (since 2017)
- **7.9M in external grant awards** in support of MJ’s research lab (since 2017)
- **Tutor/organizer of 15 tutorials** in international conferences (KDD, ACL, EMNLP, WWW, WSDM, etc.)
- **Chair of 10 workshops** in international conferences (KDD, ACL, AAAI, etc.)
- Organizer of Midwest Speech and Language Days (2025)
- **Awards**: EMNLP Outstanding Paper Award (2023), **NSF CAREER Award** (2022), ACM SIGSOFT (ICSE) Distinguished Paper Award (2021), ISDSA Annual Meeting Best Paper Award (2020), Notre Dame International Faculty Research Award (2019), ACM SIGKDD Best Papers of KDD (2014)
- **Elected** IEEE Senior Member (2023) and ACM Senior Member (2023)
- Editor of IEEE Bulletin of the Technical Committee on Data Engineering, December 2024, Vol. 48 No. 4
- Designed new courses on topic of “*Computational Behavior Modeling*” and “*Large Language Models*” for Engineering students to support new emphases on campus
- **Supervision of 17 PhD students, 3 Master students, 1 postdoctoral fellow, 30 undergraduates, 7 high school students, 2 visiting PhD students, and 21 visiting undergraduates**