

Emma (Miri) Liu

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Education

University of Illinois, Urbana-Champaign

PhD in Computer Science

- Advised by Professor ChengXiang Zhai and Professor Jiawei Han

Urbana, IL

Sept 2025 – present

University of California, Los Angeles

BS in Computer Science and Mathematics

Los Angeles, CA

Sept 2021 – June 2025

Publications and Presentations

Rethinking Creativity Evaluation: A Critical Analysis of Existing Creativity Evaluations

Li-Chun Lu, **Miri Liu**, Pin-Chun Lu, Yufei Tian, Nanyun Peng

[10.48550/arXiv.2508.05470](https://arxiv.org/abs/10.48550/arXiv.2508.05470) (arXiv preprint, under submission)

Are Large Language Models Capable of Generating Human-Level Narratives?

Yufei Tian*, Tenghao Huang*, **Miri Liu**, Derek Jiang, Alexander Spangher, Muhao Chen, Jonathan May, Nanyun Peng

[10.18653/v1/2024.emnlp-main.978](https://arxiv.org/abs/10.18653/v1/2024.emnlp-main.978) (EMNLP 2024, 🏆 Outstanding Paper [*Top 2.5% accepted papers*])

Optimizing the Exa.TrkX Inference Pipeline for Manycore CPUs

Nirajan Acharya*, **Emma Liu***, Alberto Lucas*, Alina Lazar

Connecting the Dots Workshop 2022

Accelerating the Inference of the Exa.TrkX Pipeline

Alina Lazar et al. (including **Emma Liu**)

[10.1088/1742-6596/2438/1/012008](https://arxiv.org/abs/10.1088/1742-6596/2438/1/012008) (ACAT 2021)

Honors and Awards

UIUC AICE Amazon AI PhD Fellowship: 2 year award (2025-2027)

Outstanding Paper Award, EMNLP 2024: Top 2.5% of accepted papers

Upsilon Pi Epsilon: International Honor Society

Research Experience

PhD Student Researcher

Data Mining Group @ UIUC

Urbana, IL

Sept 2025 – present

- Developing ontology-aware retrieval methods that map scientific queries and papers into ontologies to return focused sets of relevant work

PhD Student Researcher

TIMAN Group @ UIUC

Urbana, IL

Sept 2025 – present

- Designing metrics to evaluate conceptual (rather than purely linguistic) novelty in text, with applications to peer review and AI-generated scientific hypotheses

Undergraduate Student Researcher

NLP / PLUS Lab @ UCLA

Los Angeles, CA

Oct 2023 – June 2025

- **Narrative generation:** Contributed to the design of a study comparing LLM and human outputs; independently curated datasets and led the human annotation process (guidelines, training, inter-annotator agreement)
- **VLM Fairness:** Built evaluation pipelines, designed prompt sets, and analyzed safety filter robustness in generative models

Undergraduate Student Researcher

Sept 2021 – May 2022

XSEDE EMPOWER @ YSU

- Applied high-performance computing techniques to optimize the Exa.TrkX inference pipeline on manycore CPU architectures, improving parallel efficiency

HHMI Undergraduate Student Researcher

Sept 2021 – May 2022

OzcanLab @ UCLA

- Gained exposure to nanofabrication, learning techniques such as electron beam lithography and thin-film deposition and exploring optical neural network applications

Industry Experience

Data Platforms Intern

Chicago, IL

Balyasny Asset Management

June 2023 – Sept 2024

- Designed and deployed metadata ingestion framework integrating internal systems, saving an estimated *\$250K in developer hours* and processing *10,000+ data assets*
- Implemented robust proxy service to facilitate substantial traffic increase from *3 million to 25 million* daily requests to service

EXPLORE Software Intern

Redmond, WA

Microsoft

June 2022 – Sept 2022

- Built data pipeline expanding monitoring scope from *300 to 3 million* server units, strengthening experience in scalable data systems

Teaching and Service

Grader (CS 181 Intro to Automata Theory, ECE M148 Intro to Data Science at UCLA)

June 2024 – Aug 2024

- Graded assignments and provided weekly feedback to classes of 75 and 115 students, respectively

LAHacks Sponsorship Committee

Sept 2023 – June 2024

- Helped secure *\$180,000 in sponsorships* through outreach to hundreds of potential partners
- Organized panels and mentor recruitment efforts to support *over 1,000 hackathon participants* annually

Learning Assistant (CS 35L Software Construction Laboratory at UCLA)

Mar 2022 – Mar 2024

- Named a *reason students enjoy the major at CS town hall*
- Held office hours and gave instruction weekly to section of 50 students

Skills

Programming Languages: Python, C++, experience with Java and C#; workflow automation with Airflow

Machine Learning & NLP: Hugging Face Transformers, PyTorch, TensorFlow, scikit-learn; data analysis with NumPy/Pandas/SciPy; visualization with Matplotlib/Seaborn

Research Skills: Large-scale pipeline development, evaluation design, dataset curation, human annotation studies