

# LECHEN ZHANG

📍 Urbana-Champaign, IL | 📞 +1 734 834 8529 | ✉ lechenz3@illinois.edu  
🎓 Google Scholar | 📁 GitHub | 🐦 Twitter | 🌐 Homepage

## EDUCATION

### University of Illinois Urbana-Champaign

Jan. 2026 – Dec. 2029 (Expected)

PhD in Computer Science

- Advisor: Prof. Tal August

### University of Michigan, Ann Arbor

Aug. 2022 – May. 2024

Master in Information Science | GPA: 4.00/4.00 | Distinguished Thesis

- Advisor: Prof. David Jurgens and Prof. Lu Wang
- Related coursework: Applied Data Science (A+), Information Retrieval (A+), Game Theory (A+), Math for Data Science (A+), Big Data Analytics (A+), NLP Algorithm (A), Machine Learning (A)

### Shanghai Jiao Tong University

Sep. 2019 – Aug. 2023

Bachelor in Electrical and Computer Engineering

- Related coursework: Computer Vision (A), Computer Architecture (A), Intro to Linguistics (A)

## WORK EXPERIENCE

### Research Assistant

May. 2024 – Aug. 2025

Advisor: Prof. David Jurgens and Prof. Lu Wang

University of Michigan

## PUBLICATIONS

\* indicates equal contribution

### Peer-Reviewed Papers

- [10] **Skill-Aware Data Selection and Fine-Tuning for Data-Efficient Reasoning Distillation**  
Lechen Zhang, Yunxiang Zhang, Wei Hu, Lu Wang  
MATH-AI Workshop @ NeurIPS 2025 | Project Leader [arXiv] [Code]
- [9] **Logit Arithmetic Elicits Long Reasoning Capabilities Without Training**  
Yunxiang Zhang, Muhammad Khalifa, Lechen Zhang, Xin Liu, Ayoung Lee, Xinliang Frederick Zhang, Farima Fatahi Bayat, Lu Wang  
ScalR Workshop @ COLM 2025 | Main Contributor [arXiv] [Code]
- [8] **VeriFact: Enhancing Long-Form Factuality Evaluation with Refined Fact Extraction and Reference Facts**  
Xin Liu, Lechen Zhang, Sheza Munir, Yiyang Gu, Lu Wang  
EMNLP 2025 | Main Contributor [ACL Anthology] [arXiv] [Code]
- [7] **FactBench: A Dynamic Benchmark for In-the-Wild Language Model Factuality Evaluation**  
Farima Fatahi Bayat, Lechen Zhang, Sheza Munir, Lu Wang  
ACL 2025 | Main Contributor [ACL Anthology] [arXiv] [Code] [Twitter]
- [6] **Towards Global AI Inclusivity: A Large-Scale Multilingual Terminology Dataset (GIST)**  
Jiarui Liu\*, Iman Ouzzani\*, Wenkai Li\*, Lechen Zhang, Tianyue Ou, Houda Bouamor, Zhijing Jin, Mona Diab  
ACL 2025 Findings [ACL Anthology] [arXiv]
- [5] **Causally Modeling the Linguistic and Social Factors that Predict Email Response**  
Yinuo Xu\*, Hong Chen\*, Sushrita Rakshit\*, Aparna Ananthasubramaniam\*, Omkar Yadav\*, Mingqian Zheng\*, Michael Jiang\*, Lechen Zhang\*, Bowen Yi\*, Kenan Alkiek\*, Abraham Israeli\*, Bangzhao Shu\*, Hua Shen\*, Jiaxin Pei\*, Haotian Zhang\*, Miriam Schirmer\*, David Jurgens (Randomized Author Order)  
NAACL 2025 | Main Contributor [ACL Anthology]

- [4] **You don't need a personality test to know these models are unreliable: Assessing the Reliability of Large Language Models on Psychometric Instruments**  
Bangzhao Shu\*, Lechen Zhang\*, Minje Choi, Lavinia Dunagan, Lajanugen Logeswaran, Moontae Lee, Dallas Card, David Jurgens  
NAACL 2024 Oral | Project Leader [\[ACL Anthology\]](#) [\[arXiv\]](#) [\[Slides\]](#) [\[Code\]](#) [\[Twitter\]](#)

## Papers Under Review & Preprints

- [3] **Cross-Lingual Prompt Steerability: Towards Accurate and Robust LLM Behavior across Languages**  
Lechen Zhang\*, Yusheng Zhou, Tolga Ergen, Lajanugen Logeswaran, Moontae Lee, David Jurgens  
Under Review | Project Leader [\[arXiv\]](#) [\[Code\]](#)
- [2] **SPRIG: Improving Large Language Model Performance by System Prompt Optimization**  
Lechen Zhang, Tolga Ergen, Lajanugen Logeswaran, Moontae Lee, David Jurgens  
Under Review | Project Leader [\[arXiv\]](#) [\[Slides\]](#) [\[Code\]](#) [\[Twitter\]](#)
- [1] **Real or Robotic? Assessing Whether LLMs Accurately Simulate Qualities of Human Responses in Dialogue**  
Jonathan Ivey\*, Shivani Kumar\*, Jiayu Liu\*, Hua Shen\*, Sushrita Rakshit\*, Rohan Raju\*, Haotian Zhang\*, Aparna Ananthasubramaniam\*, Junghwan Kim\*, Bowen Yi\*, Dustin Wright\*, Abraham Israeli\*, Anders Giovanni Møller\*, Lechen Zhang\*, David Jurgens (*Randomized Author Order*)  
Under Review | Project Leader [\[arXiv\]](#) [\[Code\]](#) [\[Twitter\]](#)

## RESEARCH EXPERIENCE

---

### Concluded Projects

- Improving LLMs' general performance by System Prompt Optimization** Feb. 2024 – May. 2025  
Advisor: *David Jurgens* University of Michigan
- Design an edit-based genetic system prompt optimizer *SPRIG* that generally improves LLM performance across 47 diverse benchmarks.
  - Discover strong generalization capability of system prompt optimization across tasks, models, languages, and even out-of-domain challenges, and its complementary effect with existing task-specific optimizers.
  - Develop new RL strategies to efficiently explore and expand the design space of system prompts.
  - Lead the whole project independently, completing all aspects from research ideation to paper writing.
- Factuality Evaluation pipeline and benchmark in real-world scenarios** May. 2024 – Nov. 2024  
Advisor: *Lu Wang* University of Michigan
- Develop a retrieval-based factuality evaluation pipeline for long-form text that is more fine-grained, efficient and aligns better with human than existing work.
  - Build a benchmark of prompts that are factually challenging to LLMs by filtering LMSYS-1M dataset, clustering representative prompts, and selecting based on their scores on the designed evaluation pipeline.
  - Lead experiments on open-source models, reproduce 3 existing studies as baselines, and implement parallel optimization for a 10x speedup.
  - Contribute extensively to paper writing and post-submission tasks, including drafting key sections, analyzing results, creating visuals, managing code repository, and preparing rebuttals.
- Assessment of LLM Simulation Ability of Human Responses in Dialogue** Jul. 2024 – Oct. 2024  
Advisor: *David Jurgens* University of Michigan
- Implement 15 evaluation metrics for LLM simulation quality across lexical, syntactic, semantic, and style features.
  - Lead the collection of 50 instruction prompts and generate 1M dialogue simulation results from 9 LLMs.
  - Set up annotation platform for the whole lab to collect human annotations as a baseline.
  - Lead the project as the main contributor to coding, paper writing and post-submission tasks.

## Modeling Intent, Expectation, and Responsiveness in Email Conversations

Mar. 2024 – Jun. 2024

Advisor: *David Jurgens*

University of Michigan

- Preprocess raw Email data and build an email relationship network to sample and construct a dataset for analysis.
- Evaluate LLM's ability to infer Email Intent by fine-tuning RoBERTa and running zero-shot inference on Llama-3.
- Serve as the main contributor to annotating, coding, paper writing and post-submission tasks.

## Robustness of LLMs' personality under Psychometric Instruments

Sep. 2023 – Dec. 2023

Advisor: *David Jurgens*

University of Michigan

- Build evaluation dataset and metrics that measures the robustness of various LLMs' personalities under spurious prompt variation and rephrased statements, and evaluate on 17 different LLMs.
- Experiment the personality and robustness shifts under different conditions, such as injecting personalities through prompts, and fine-tuning LLMs (Llama2, Flan-T5, etc.) on various corpora (Bible, 4chan, r/Donald, etc.).
- Lead the project and contribute to most coding, experiments, writing, and post-submission tasks such as the rebuttal, code repository, Twitter thread, and related presentations.

## PRESENTATIONS

---

**EMNLP 2025 Poster** (Suzhou) – *VeriFact: Enhancing Long-Form Factuality Evaluation with Refined Fact Extraction and Reference Facts.* [\[ACL Anthology\]](#)

**NAACL 2024 Oral** (Mexico City) – *You don't need a personality test to know these models are unreliable: Assessing the Reliability of Large Language Models on Psychometric Instruments.* [\[Slides\]](#) [\[ACL Anthology\]](#)

## PROFESSIONAL SERVICES

---

### Conference Reviewer

- ACL 2025
- MATH-AI Workshop @ NeurIPS 2025
- ScalR Workshop @ COLM 2025
- NAACL 2025
- EMNLP 2024 (*Outstanding Reviewer*), EMNLP 2025

## SKILLS

---

**Programming:** Python, C/C++, C#, Java, Go, SQL, MATLAB, R, Kotlin, LaTeX

**Frameworks:** PyTorch, Tensorflow, Transformers, Accelerate, DeepSpeed, PEFT, NLTK, Scikit-Learn

**Languages:** Chinese (Native), English (Fluent), Japanese (Basic)