

Yixiao Song

✉ yixiao.song.syx@gmail.com • 🌐 yixiao-song.github.io

Ph.D at UMass Amherst. Experienced in multilinguality, automatic and human evaluation of LLMs and agents, and grammar error correction/explanation.

Education

M.S./Ph.D in Computer Science	3.94/4.0
University of Massachusetts Amherst	2019-2025
M.A. in Linguistics	3.94/4.0
University of Massachusetts Amherst	2019-2025
M.A. in Germanic Linguistics	1.1/6.0 (excellent)
University of Konstanz	2016-2018
B.A. in German	3.71/4.0
University of Shanghai for Science and Technology	2011-2015

Employment

Google Cloud	Sunnyvale, CA
Research Scientist	2025-current
Focus: TBD	

Graduate Internships

- **Google**
Google Translate Team
Research Intern (mentored by Parker Riley, Dan Deutsch, and Markus Freitag)
Implemented in JavaScript a new template in [Anthea](#) for human evaluation
Integrated comparative judgment into the fine-grained human evaluation MQM
Analyzed strengths and weaknesses of different annotation settings
Paper "[Enhancing Human Evaluation](#)" accepted to ACL 2025
June - September 2024
- **Quillbot, Learneo, Inc.**
Platform for grammar correction, translation and text rewriting
Research Engineer Intern (mentored by Kevin Gimpel and George Wang)
Improved German grammar error correction product
(+5% copy rate & +1.7% 1-day retention compared to previous product)
Published the [GEE!](#) paper in NAACL 2024 Findings
June - September 2023

Publications

As of September 2025, my papers have been cited over 700 times according to my [Google Scholar](#) profile. ACL, NAACL, EMNLP, COLM, and NeurIPS are peer reviewed conferences with acceptance rates typically around 25-30%.

[Does quantization affect models' performance on long-context tasks?](#) EMNLP 2025
Anmol Mekala, Anirudh Atmakuru, Yixiao Song, Marzena Karpinska, Mohit Iyyer

- A systematic evaluation of quantized LLMs on tasks with long-inputs and long-form outputs

[BEARcUBS: A Benchmark for Computer-using Web Agents](#) COLM 2025
Yixiao Song, Katherine Thai, Chau Minh Pham, Yapei Chang, Mazin Nadaf, Mohit Iyyer

- A "small but mighty" benchmark of 111 information-seeking questions
- Evaluates web agents' ability to search, browse, and identify factual information from the web
- BEARcUBS questions are solvable but non-trivial (84.7% human accuracy)
- Best-performing computer use agent, OpenAI's Operator, fall far behind (24.3% accuracy)

[Enhancing Human Evaluation in Machine Translation with Comparative Judgment](#) ACL 2025
Yixiao Song, Parker Riley, Daniel Deutsch, Markus Freitag

- Systematically compared pointwise and pairwise evaluation in machine learning human evaluation
- Pairwise MQM improves inter-annotator agreement
- Pairwise MQM boosts inter-translation error marking consistency
- Pairwise MQM proved more reliable in identifying equal quality translations

Fine-grained Hallucination Detection and Mitigation in Long-form Question Answering

Rachneet Sachdeva, **Yixiao Song**, Mohit Iyyer, and Iryna Gurevych

ACL 2025 Findings

- Introduced the dataset HaluQuestQA with span-level error annotations.
- Trained a feedback model to predict incomplete information spans and provides explanations.
- Designed the prompting method Error-Informed Refinement to refined LFQA answers.

VERISCORE: Evaluating the Factuality of Verifiable Claims in Long-form Text Generation

Yixiao Song, Yekyung Kim, and Mohit Iyyer

EMNLP 2024 Findings

- Proposed an automatic metric for factuality evaluation of long-form model generations
- The metric effectively distinguishes verifiable and unverifiable claims which earlier metrics are not able to.
- The metric is effectively implemented with either closed or fine-tuned open-weight language models.

GEE! Grammar Error Explanation with Large Language Models

NAACL 2024 Findings

Yixiao Song, Kalpesh Krishna, Rajesh Bhatt, Kevin Gimpel, and Mohit Iyyer

- Proposed a two-step pipeline for generating grammar error explanation in natural language
- Utilized atomic edit extraction to guide the GEE generation to increase recall and precision
- Showed the high performance of the pipeline in German and Chinese GEE

A Critical Evaluation of Evaluations for Long-form Question Answering

ACL 2023

Yixiao Song*, Fangyuan Xu*, Mohit Iyyer, and Eunsol Choi (*Equal contribution)

- Comprehensively evaluated text generation metrics on long-form open-ended question answering generation
- First expert-annotated long-form question answering dataset

Paraphrasing Evades Detectors of AI-generated Text, but Retrieval is an Effective Defense

NeurIPS 2023

Kalpesh Krishna, **Yixiao Song**, Marzena Karpinska, John Wieting, and Mohit Iyyer

- Introduced a paraphrase generation model DIPPER which leverages context and offers diversity control
- Stress-tested and successfully evaded major AI-generated text detectors (e.g., watermarking, GPTZero)
- Proposed a simple but effective defense that relies on retrieving semantically-similar generations

kNN-LM Does Not Improve Open-ended Text Generation

EMNLP 2023

Shufan Wang, **Yixiao Song**, Andrew Drozdov, Aparna Garimella, Varun Manjunatha, and Mohit Iyyer

- Revealed that interpolation-based retrieval-augmented LMs do not improve open-ended generation quality

SLING: Sino Linguistic Evaluation of Large Language Models

EMNLP 2022

Yixiao Song, Kalpesh Krishna, Rajesh Bhatt, and Mohit Iyyer

- A benchmark with 38K minimal sentence pairs in Mandarin Chinese
- Tested 18 publicly available pretrained monolingual and multi-lingual language models
- Showed that the average accuracy for LMs is far below human performance (69.7% vs. 97.1%)
- Revealed the strengths and weaknesses of large language models

DEMETR: Diagnosing Evaluation Metrics for Translation

EMNLP 2022

Marzena Karpinska, Nishant Raj, Katherine Thai, **Yixiao Song**, Ankita Gupta, and Mohit Iyyer

- A diagnostic dataset with 31K English sentences (translated from 10 source languages)
- Evaluated the sensitivity of MT evaluation metrics to 35 different linguistic perturbations
- Found that learned metrics perform substantially better than string-based ones
- Revealed the strengths and weaknesses of learned metrics

Positions of Responsibility

- **Reviewer** for NeurIPS 2023 R0-FoMo Workshop, EACL 2024 (Outstanding Reviewer), NAACL 2024/2025, ACL 2024, BEA 2024, ESSLLI 2024, EMNLP 2024/2025, ACL REALM 2025
- **Research Assistant** advised by Prof. Mohit Iyyer (Summer 2022): Human evaluation of model performance of long-form question answering. Paper "[A Critical Evaluation of Evaluations](#)" published in ACL
- **Instructor** of LING201 at UMass Amherst: How Language Works—Introduction to Linguistic Theory (R2)
- **Teaching Assistant** for courses at master level (University of Konstanz) and (under)graduate level (UMass Amherst)
- **Proceeding Editor** of NELS50 and SULA11
- **Student Research Assistant** in Deutsche Forschungsgemeinschaft Project—Questions at the Interfaces (P3 Alternative Questions)

Other Experiences

- **Cultural Institute of the Federal Republic of Germany (Goethe Institut)**
Non-profit German cultural association, promoting the German language study abroad August 2014 - February 2016

Translator, interpreter, project assistant

○ **Friedrich Ebert Stiftung Shanghai Office**

- *Non-profit German foundation funded by the Government of the Federal Republic of Germany*
Translator, project assistant

April-July 2014

Works and Presentations

Mandarin Chinese Alternative Questions are not Disjoined Polar Questions

Yixiao Song

2021

- First qualification paper supervised by Prof. Rajesh Bhatt and Prof. Seth Cable

Early Cue Effects of Chinese Relative Clause Comprehension in Pre-trained Language Model

Yixiao Song

2021

- Breadth Paper for satisfying Ph.D. requirements

A Comparative Study of German and Chinese Alternative Questions

Yixiao Song

2018

- Poster presentation at Semantics and Philosophy in Europe
○ Talk at the 17th China International Conference on Contemporary Linguistics

Skills

- **Natural Languages:** Shanghai Wu, Mandarin Chinese, English, German
○ **Programming:** Python (PyTorch, Hugging Face), R, JavaScript, Linux
○ **Others:** L^AT_EX, GitHub