(Harvey) Yiyun Fu

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RESEARCH Interests Natural Language Processing few-shot learning; cross-task generalization robustness; LLM capability evaluation; meta-learning; LLM reasoning abilities

EDUCATION

University of Chicago, Chicago, IL

2024 - Present

Ph.D. in Computer Science (Advisor: Ari Holtzman)

University of Southern California, Los Angeles, CA Bachelor of Science in Economics & Mathematics

2019 - 2023

RESEARCH EXPERIENCE University of Chicago, Chicago, IL

Oct 2024 - Present

Research Assistant (Advisor: Ari Holtzman)

- Large Language Model Reasoning Capability Analysis
- Benchmarking Language Model Capabilities Over Long-context Inputs.

University of Southern California, Los Angeles, CA $\,$ April 2022 - June 2024 Allegro Lab & INK Lab

Research Assistant (Advisor: Robin Jia and Xiang Ren)

• Large Language Model Hallucination Detection

I studied LLM hallucination detection problems with a focus on long-sequence generations by inserting contradictory evidence.

• Large Language Model Capability Analysis

I focused on evaluating the calibration of LLMs through in-context learning and task-level accuracy predictions through a meta-learning process. I also worked on LLM performance predictions through experiment records.

University of Southern California, Los Angeles, CA Spring 2022 Student Researcher (Instructor: Goran Muric and Keith Burghardt)

• Disinformation Detection

I studied falsified information detection for generated texts, images, captions, and also web-scraped data from semantic scholar using a decision tree model.

Publications

Harvey Yiyun Fu, Aryan Shrivastava, Jared Moore, Peter West, Chenhao Tan, Ari Holtzman. AbsenceBench: Language Models Can't Tell What's Missing.

preprint [Paper] [Code]

Harvey Yiyun Fu, Qinyuan Ye, Albert Xu, Xiang Ren, Robin Jia. Estimating Large Language Model Capabilities without Labeled Test Data.

Findings of EMNLP, 2023 [Paper] [Code]

Qinyuan Ye, **Harvey Yiyun Fu**, Xiang Ren, Robin Jia. **How Predictable Are Large Language Model Capabilities? A Case Study on BIG-bench**. Findings of EMNLP, 2023 [Paper] [Code]

Industry Experience Paragon Partners Asia, Shanghai, China

Spring 2022

Financial Analyst

Built machine learning models to analyze statistical patterns in cash flow statements.

Tempo Asset Management Company, Shanghai, China Summer 2021 Economic Research Intern TEACHING EXPERIENCE CMSC35300: Mathematical Foundations of ML, UChicago

Hold weekly office hours and lead recitation sessions.

Instructor: Haifeng Xu and Tian Li

CSCI170: Discrete Methods in Computer Science, USC Fall 2023

Hold weekly office hours to assist with teaching and homework problems.

Instructor: Victor Adamchik

ITP115: Programming in Python, USC Aug 2022 - Jan 2024

Assist with course teaching and grading, and hold semi-weekly office hours.

Instructor: Trina Gregory and Barrett Koster

Awards and Honors USC Provost's Undergrad Research Fellowship

Apr 2023 and Sep 2023

USC Academic Achievement Award

 $\mathrm{Jul}\ 2021$

Spring 2025

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