Kate Lin

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Experience

Research Engineer *Sep 2021 - Current*
Google Research

Create cognitive evals for Gemini to guide the construction of human-like intelligence in machines

- Created an internal suite of social cognition evals for Gemini.
- Project lead: Developed tabular reasoning evals for Gemini based on in-the-wild Web datasets.

Find, organize, and use datasets published on the Web

- Project lead: Answer natural language queries using data from tabular datasets on the Web to reduce hallucinations. Launched internal demo.
- Generated synthetic natural language queries for more semantically meaningful dataset retrieval.
- Project Lead: Define and automatically infer relationships between datasets published on the Web. **Best Paper Award, ISWC 2024**
- Proposed, developed, and launched a feature that aggregates all the versions of a dataset and collates them on the Dataset Search frontend to streamline the data discovery interface.
- Trained and launched structured data extraction model to extract metadata for tabular datasets with 98% precision and recall, enabling the indexing of datasets published without metadata. Model launch increased the Dataset Search corpus size by 9%.
- Improved dataset ranking results in Google Search by incorporating user interaction signals, leading to results triggering at a higher location for 78% of dataset related search queries.

Student Researcher *May 2020 – Jan 2021*
Google Research

Develop automatic structured variational inference

- Developed and implemented new method of automatically structuring surrogate posteriors for variational inference that outperforms baseline surrogate posteriors methods (mean-field, multivariate normal, and normalizing flows). Paper accepted to AISTATS.

Undergraduate Research Assistant *Feb 2020 – Oct 2020*
MIT CSAIL Computer Aided Programming Group

Develop an interactive evaluation suite to understand how humans vs program synthesis models discover and replicate causal probabilistic programs
PI: Armando Solar-Lezama - **Direct Supervisor:** Zenna Tavares

- Designed and built Causal Inductive Synthesis Corpus (CISC), a suite of interactive problems designed for causal discovery for both agents & humans.
- Built v0 web interface with logging and replay functionalities for humans to interact with CISC eval.

Engineering Practicum Intern *May 2019 - Aug 2019*
Google Research

Automatically generate crossword puzzles for specific topics trending in the news

- Fine tuned BERT to generate interesting crossword puzzle hints given Wikipedia articles and news articles.
- Built pipeline to generate daily crossword puzzles based on trending news topics.

Undergraduate Research Assistant *Sep 2018 - May 2019*
MIT Computational Cognitive Science Group

Develop inverse graphics model for visual processing of complex human poses in the brain
PI: Joshua B Tenenbaum - **Direct Supervisor:** Ilker Yildirim

- Modified SURREAL (Synthetic hUmans foR REAL tasks) generative model to develop an image dataset of human bodies in poses that are difficult for both humans and computers to parse.

Education

Wellesley College *2017-2021*
BA in Computer Science

Massachusetts Institute of Technology *2017-2021*
Cross-Registered Student

Oxford University - Worcester College *2019*
Visiting Student

Publications

Gemini 2.5: Pushing the Frontier with Advanced Reasoning, Multimodality, Long Context, and Next Generation Agentic Capabilities arXiv

Gemini Team

Tech Report, 2025

RADAR: Benchmarking Language Models on Imperfect Tabular Data arXiv

Ken Gu, Zhihan Zhang*, ***Kate Lin****, Yuwei Zhang*, Akshay Paruchuri*, Hong Yu*, Mehran Kazemi, Kumar Ayush, et al.

In Submission at NeurIPS

Relationships are Complicated! An Analysis of Relationships Between Datasets on the Web arXiv, Google Research Blog Post

Kate Lin, Tarfah Alrashed, Natasha Noy

International Semantic Web Conference (ISWC), 2024
Best Paper Award, Research Track

Automatic Structured Variational Inference arXiv

Luca Ambrogioni, ***Kate Lin***, Emily Fertig, Sharad Vikram, Max Hinne, Dave Moore, Marcel van Gerven

International Conference on Artificial Intelligence and Statistics (AISTATS), 2021

Causal Inductive Synthesis Corpus OpenReview

Zenna Tavares, Ria Das, Elizabeth Weeks, ***Kate Lin***, Joshua B Tenenbaum, Armando Solar-Lezama

NeurIPS Workshop on Computer Assisted Programming, 2020

Cross-Subject EEG Event-Related Potential Classification for Brain-Computer Interfaces Using Residual Networks HAL

Arnaldo Pereira, Dereck Padden, Jay Jantz, ***Kate Lin***, Ramses Alcaide-Aguirre

Tech Report, 2018

Invited Talks

Open Ecosystem For Dataset Discovery
Keynote Talk at DOME 4.0 Hackathon, 2024

Generating Topic Specific Crosswords from the News
Selected Intern Talk at Google Women Engineers Conference, 2019