

Abhinav Chinta

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EDUCATION

Stanford University

Incoming MS, Computer Science

Sep 2025 – Jun 2027

Palo Alto, CA

University of Illinois Urbana-Champaign

BS, Computer Science, Minor in Statistics

Cumulative GPA: 3.84/4.0

James Scholar, Innovation LLC Scholar, Dean's List – Spring 2022, Fall 2022

Aug 2021 – May 2025

Champaign, IL

PUBLICATIONS

Scaling Laws for Natural Language Planning Models

Abhinav Chinta, Sumuk Shashidhar, Vaibhav Sahai, Dilek Hakkani-Tür

Under Review

Teaching Small Models to Reason Using Scientific Tables

Abhinav Chinta, Dilek Hakkani-Tür

Under Review

Token Efficient Deep Conversational Reasoning with ConvoDAGs

Sumuk Shashidhar*, Abhinav Chinta*, Vaibhav Sahai, Faraz Siddiqui, Shivansh Patel, Kevin Chen-Chuan Chang

Under Review

Premise-Augmented Reasoning Chains Improve Error Identification in Math reasoning with LLMs

Sagnik Mukherjee*, Abhinav Chinta*, Takyoun Kim, Tarun Anoop Sharma, Dilek Hakkani Tur

International Conference on Machine Learning: **ICML 2025**

Unsupervised Human Preference Learning

Sumuk Shashidhar, Abhinav Chinta, Vaibhav Sahai, and Dilek Hakkani-Tür

In Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing **EMNLP 2024**, pages 3412–3445, Miami, Florida, USA. Association for Computational Linguistics.

Democratizing LLMs: An Exploration of Cost-Performance Trade-offs in Self-Refined Open-Source Models

Sumuk Shashidhar*, Abhinav Chinta*, Vaibhav Sahai*, Zhenhailong Wang, Heng Ji

In Findings of the Association for Computational Linguistics: **EMNLP 2023**, pages 9070–9084, Singapore. Association for Computational Linguistics.

WORK EXPERIENCE

Sandia National Laboratories

Research Intern

May 2024 – Present

Albuquerque, NM

- Conducting research on Automated Attribution to Identified Sources using RAG and large corpora agreement scores

Prof. Dilek Hakkani Tur Research Group (ConvAI Lab)

Undergraduate Researcher

Jan 2024 – Present

Champaign, IL

- Building open-source datasets and tools to analyze how LLMs perform complex reasoning tasks via graph representations
- Currently working on improving the performance of small models using reasoning distillation from larger models

Prof. Heng Ji Research Lab (BLENDER Lab)

Undergraduate Researcher

Jun 2023 – Present

Champaign, IL

- Authored an EMNLP submission investigating the efficacy of domain-agnostic self-refinement on Open-Source LLMs
- Developed a novel PeRFICS metric to help rank Open-Source LLMs based on use case and performance constraints

Prof. Kevin Chang Research Group (FORWARD Data Lab)

Aug 2023 – Dec 2023

Undergraduate Researcher

Champaign, IL

- Conducted research on token efficient conversational memory using Directed Acyclic Graphs (DAGs)
- Achieved 115% accuracy compared to baselines on the Ubuntu Dialogue Corpus while maintaining 76% compression rate

Nference, Inc.

May 2023 – Aug 2023

Machine Learning Intern

Cambridge, MA

- Trained a YOLO model to detect Mitotic figures in histological tumor images to achieve a 92% True Positive Rate
- Utilized ChatGPT API to automate Metabase queries for slide scanning analytics for Mayo Clinic and Duke Health

Jane Street

May 2023

SEE Quant Trading Fellow

New York, NY

- One out of 30 students selected for the SEE trading program competing in mock trading sessions and market simulations
- Participated in mock trading sessions, applying and refining arbitrage strategies in real-time simulations.

nSpire AI

May 2022 – Aug 2022

Machine Learning Intern

San Francisco, CA

- Created an object detection model, enhancing live feed analytics by 8.6% from the previous benchmark
- Implemented an NLTK subject classifier for the chatbot development team to achieve an 83.7% accuracy rate

UTIL Research Group

May 2022 – May 2024

Undergraduate Researcher

Champaign, IL

- Worked with Prof. Alex Bartik to develop Nextupjobs and Michiganworks under the Bill and Melinda Gates Grant