

RESEARCH INTERESTS

I am a first-year Ph.D. student in computer science at the University of Maryland, College Park, advised by Professors Jordan Boyd-Graber and Rachel Rudinger. I conduct research with the goal of aligning, guiding, and interpreting LLMs, with a focus on **factuality** in text generation, **human-guided** frameworks, and **interpreting** the **safety** and **reliability** of LLMs. I am extremely grateful to be funded by the NSF GRFP and a Cohere for AI Research Grant.

EDUCATION

- **University of Maryland, College Park (UMD)** College Park, MD
Ph.D. Computer Science; GPA: 4.00/4.00 Aug 2023 - Present
Advisors: Professors Jordan Boyd-Graber, Rachel Rudinger
- **University of Illinois at Urbana-Champaign (UIUC)** Urbana, IL
B.S. Computer Science; B.S. Statistics (Dual Degree); GPA: 4.00/4.00 Aug 2019 - May 2023
Collaborators: Professors Kevin Chen-Chuan Chang, Jiawei Han, Hari Sundaram, Diyi Yang

PUBLICATIONS AND WRITTEN WORK

- Mnemonic Sounds like “Glue Tonic”: Mixing LLMs with Student Feedback to Make Mnemonic Learning Stick
Under Review
Nishant Balepur, Matthew Shu, Alexander Hoyle, Shi Feng, Seraphina Goldfarb-Tarrant, Jordan Boyd-Graber
TL;DR: We align an LLM with fine-tuning and DPO to generate keyword mnemonic devices
- Is Your Large Language Model Knowledgeable or a Choices-Only Cheater?
Under Review
Nishant Balepur, Rachel Rudinger
TL;DR: We investigate whether MCQA leaderboards are influenced by the choices-only abilities of LLMs
- Plausibly Problematic Questions in Multiple-Choice Benchmarks for Commonsense Reasoning
Under Review
Shramay Palta, Nishant Balepur, Peter Rankel, Sarah Wiegrefe, Marine Carpuat, Rachel Rudinger
TL;DR: We quantify the plausibility of answer choices in commonsense MCQA to uncover problematic data entries
- The Prompt Report: A Systematic Survey of Prompting Techniques
In Progress
Sander Schulhoff*, Michael Ilie*, Nishant Balepur, ..., Shyamal Anadkat, Alexander Hoyle, Phillip Resnik
TL;DR: We survey the current field and practices of prompt engineering in NLP
- Artifacts or Abduction: How Do LLMs Answer Multiple-Choice Questions Without the Question?
ACL 2024
Nishant Balepur, Abhilasha Ravichander, Rachel Rudinger
Best Paper Award (4%) and Oral Presentation (7%) at MASC-SSL 2024
TL;DR: We discover that LLMs can obtain high accuracy without the question in MCQA, and analyze how
- KARL: Knowledge-Aware Retrieval and Representations aid Retention and Learning in Students
arxiv:2402.12291
Matthew Shu*, Nishant Balepur*, Shi Feng*, Jordan Boyd-Graber
TL;DR: We create a BERT-based retrieval-augmented flashcard scheduler to help students learn more effectively
- It’s Not Easy Being Wrong: Large Language Models Struggle with Process of Elimination Reasoning
ACL 2024 (Findings)
Nishant Balepur, Shramay Palta, Rachel Rudinger
TL;DR: We uncover a new weakness of LLMs—reasoning toward incorrect options on multiple-choice questions
- Expository Text Generation: Imitate, Retrieve, Paraphrase
EMNLP 2023
Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang
TL;DR: We design a task and model to generate multi-sentence and stylistically consistent factual texts
- Text Fact Transfer
EMNLP 2023
Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang
TL;DR: We propose a complement to style transfer, where models must preserve style while transferring facts

- **DynaMiTE: Discovering Explosive Topic Evolutions with User Guidance**
ACL 2023 (Findings)
Nishant Balepur*, Shivam Agarwal*, Karthik Ramanan, Susik Yoon, Diyi Yang, Jiawei Han
TL;DR: We build a model to mine for topics evolutions in large corpora, leveraging user-provided seed guidance
- **Mastering the ABCDs of Complex Questions: Answer-Based Claim Decomposition for Self-Evaluating LLMs**
arXiv:2305.14750
Nishant Balepur, Jie Huang, Samraj Moorjani, Kevin Chen-Chuan Chang, Hari Sundaram
TL;DR: We study whether LLMs can perform a fine-grained form of self-evaluation
- **Aligning Language Models with Factuality and Truthfulness**
Undergraduate Senior Thesis
Nishant Balepur, Kevin Chen-Chuan Chang

INDUSTRY EXPERIENCE

- **Adobe** San Jose, CA
Research Scientist Intern (Incoming) May 2024 - Aug 2024
- **Meta** Menlo Park, CA
Software Engineering Intern May 2022 - Aug 2022
- **HiMarley** Remote
Data Science Intern May 2021 - Aug 2021
- **State Farm** Champaign, IL
Actuarial and Modeling Intern Aug 2020 - Dec 2020
- **John Deere** Remote
Software Engineering Intern Jun 2020 - Aug 2020

STUDENTS MENTORED

- **Matthew Shu** (B.S. Yale), 2023-Present, LLMs in Education
First-authored paper under review
- **Jerry He** (HS Student), 2024-Present, Crossword Generation with LLMs

PROFESSIONAL SERVICE

- **Conference Reviewer** UMD
Reviewer for: ACL 2023, ARR 2023-Present, LREC 2024 2022-Present
- **Visiting Student Day Volunteer** UMD
Volunteer and ambassador for UMD's visiting student day Mar 2024
- **Winter Storm LLM Workshop** UMD
Led a 5-day workshop on LLMs for non-CS graduate students Jan 2023
- **Computer Science and Statistics Student Ambassador** UIUC
Mentor of new students and volunteer for computer science and statistics events Aug 2022 - May 2023
- **SIGNLL** UIUC
President of Special Interest Group for Natural Language Learning Aug 2020 - May 2021
- **Co-founder of Project: Code** UIUC
Co-founder of student organization to help students build computer science projects Aug 2019 - May 2021

HONORS AND AWARDS

- **NSF Graduate Research Fellowship Program (GRFP)** April 2023 - April 2028
Provided \$159,000 for 3 Years of Fully-Funded Ph.D. Support
- **Cohere for AI Research Grant Program** April 2024
Provided \$1,000 from Cohere for AI to support the KARL research project
- **Dean's Fellowship** April 2023 - April 2025
Awarded the Dean's Fellowship from UMD for outstanding academic achievement
- **UIUC Computer Science Graduation with Highest Honors** May 2023
Recommended by the UIUC computer science department to graduate with highest honors
- **C.W. Gear Outstanding Undergraduate Student** May 2022
Awarded to two seniors that have demonstrated excellence in research and service
- **James N. Snyder Memorial Award** May 2021
Awarded to three juniors based on academic merit