

RESEARCH SUMMARY

I am a 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 better aligning and evaluating LLMs, with a focus on instilling **factuality** in generation, guiding models toward **true user needs**, and exposing the **weaknesses** of models and benchmarks. 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: 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: Kevin Chen-Chuan Chang, Jiawei Han, Hari Sundaram, Diyi Yang

SELECTED WORKS

- A Smart Mnemonic Sounds like Glue Tonic: Mixing LLMs with Student Feedback to Make Mnemonic Learning Stick
EMNLP 2024
Nishant Balepur, Matthew Shu, Alexander Hoyle, ..., Shi Feng, Seraphina Goldfarb-Tarrant, Jordan Boyd-Graber
TL;DR: We use LLM fine-tuning and DPO to generate mnemonics aligned with what users prefer and aid learning
- Artifacts or Abduction: How Do LLMs Answer Multiple-Choice Questions Without the Question?
ACL 2024, **Best Paper Award (4%) at MASC-SSL 2024**
Nishant Balepur, Abhilasha Ravichander, Rachel Rudinger
TL;DR: We discover that LLMs can obtain high accuracy without the question in MCQA, and analyze how
- Expository Text Generation: Imitate, Retrieve, Paraphrase
EMNLP 2023
Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang
TL;DR: We design a text generation model using iterative query planning and retrieval to generate expository texts

ALL PUBLICATIONS AND WRITTEN WORK

- Reverse Question Answering: Can an LLM Write a Question so Hard (or Bad) that it Can't Answer?
Under Review (NAACL)
Nishant Balepur, Feng Gu, Shi Feng, Abhilasha Ravichander, Jordan Boyd-Graber, Rachel Rudinger
- MoDS: Moderating a Mixture of Document Speakers to Summarize Debatable Queries in Document Collections
Committed (NAACL)
Nishant Balepur, Alexa Siu, Nedim Lipka, Franck Dernoncourt, Tong Sun, Jordan Boyd-Graber, Puneet Mathur
- A Smart Mnemonic Sounds like Glue Tonic: Mixing LLMs with Student Feedback to Make Mnemonic Learning Stick
EMNLP 2024
Nishant Balepur, Matthew Shu, Alexander Hoyle, ..., Shi Feng, Seraphina Goldfarb-Tarrant, Jordan Boyd-Graber
- KARL: Knowledge-Aware Retrieval and Representations aid Retention and Learning in Students
EMNLP 2024
Matthew Shu*, **Nishant Balepur***, Shi Feng*, Jordan Boyd-Graber
- Plausibly Problematic Questions in Multiple-Choice Benchmarks for Commonsense Reasoning
EMNLP 2024 (Findings)
Shramay Palta, **Nishant Balepur**, Peter Rankel, Sarah Wiegrefe, Marine Carpuat, Rachel Rudinger
- The Prompt Report: A Systematic Survey of Prompting Techniques
Under Review (Nature)
Sander Schulhoff*, Michael Ilie*, **Nishant Balepur**, ..., Shyamal Anadkat, Alexander Hoyle, Phillip Resnik
- Artifacts or Abduction: How Do LLMs Answer Multiple-Choice Questions Without the Question?
ACL 2024, **Best Paper Award (4%) at MASC-SSL 2024**
Nishant Balepur, Abhilasha Ravichander, Rachel Rudinger
- It's Not Easy Being Wrong: Large Language Models Struggle with Process of Elimination Reasoning
ACL 2024 (Findings)
Nishant Balepur, Shramay Palta, Rachel Rudinger

- Is Your Large Language Model Knowledgeable or a Choices-Only Cheater?
ACL 2024 (KnowLLM Workshop)
Nishant Balepur, Rachel Rudinger
- Expository Text Generation: Imitate, Retrieve, Paraphrase
EMNLP 2023
Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang
- Text Fact Transfer
EMNLP 2023
Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang
- DynaMiTE: Discovering Explosive Topic Evolutions with User Guidance
ACL 2023 (Findings)
Nishant Balepur*, Shivam Agarwal*, Karthik Ramanan, Susik Yoon, Diyi Yang, Jiawei Han

INDUSTRY EXPERIENCE

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|---|---------------------|
| • Adobe | San Jose, CA |
| • Research Scientist Intern: Multi-LLM Summarization (Paper Committed to NAACL) | 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 |

FELLOWSHIPS AND GRANTS

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|---|-------------------------|
| • NSF Graduate Research Fellowship Program (GRFP) | April 2023 - April 2028 |
| • Wrote proposal on NLP for information accessibility—\$159,000 over 3 Years of Ph.D. | |
| • Cohere for AI Research Grant Program | April 2024 |
| • Wrote proposal on LLMs for AI Safety + Education—full access to Cohere models | |
| • Dean's Fellowship | April 2023 - April 2025 |
| • Awarded the Dean's Fellowship from UMD for outstanding academic achievement | |

AWARDS

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| • MASC-SSL 2024 Best Paper Award | April 2024 |
| • Selected for one of three (4%) best paper awards for “Artifacts or Abduction” by JHU | |
| • 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 | |

STUDENTS MENTORED

- **Matthew Shu** (B.S. Yale → M.S. Yale), 2023-Present, LLMs for Education
First-authored and second-authored long conferences papers at EMNLP 2024 (main)
- **Atrey Desai** (B.S. UMD), 2024-Present, Dataset Artifacts
- **Jerry He** (HS Student → B.S. GTech), 2024-Present, Crossword Generation with LLMs

PROFESSIONAL SERVICE

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|---|---------------------|
| • Conference Reviewer | UMD |
| • Reviewer for: *ACL/ARR 2023-Present, COLING 2024, IEEE TASLP 2024 | 2022-Present |
| • Program Committee: TrustNLP 2024 | |
| • Great Reviewer Nomination: April, June, August 2024 ARR | |
| • 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 |
| • SIGNLL | UIUC |
| • President of Special Interest Group for Natural Language Learning | Aug 2020 - May 2021 |