Nishant Balepur

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Website: nbalepur.github.io

Research Interests

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 **factuality** in text generation, guiding models toward **true user needs**, and probing the **weaknesses** and **capabilities** of models. 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
  Preprint
  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
  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

- Expository Text Generation: Imitate, Retrieve, Paraphrase
  EMNLP 2023
  Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang
  TL;DR: We design a task and model with iterative planning and retrieval to generate factual texts

All Publications and Written Work

- MoDS: Moderating a Mixture of Document Speakers to Summarize Debatable Queries in Document Collections
  Under Review
  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
  Preprint
  Nishant Balepur, Matthew Shu, Alexander Hoyle, ..., Shi Feng, Seraphina Goldfarb-Tarrant, Jordan Boyd-Graber

- Is Your Large Language Model Knowledgeable or a Choices-Only Cheater?
  ACL 2024 (KnowledgeLM Workshop)
  Nishant Balepur, Rachel Rudinger

- Plausibly Problematic Questions in Multiple-Choice Benchmarks for Commonsense Reasoning
  Under Review
  Shramay Palta, **Nishant Balepur**, Peter Rankel, Sarah Wiegreffe, Marine Carpuat, Rachel Rudinger

- The Prompt Report: A Systematic Survey of Prompting Techniques
  Preprint
  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
  Nishant Balepur, Abhilasha Ravichander, Rachel Rudinger
  Best Paper Award (4%) and Oral Presentation (7%) at MASC-SSL 2024

- KARL: Knowledge-Aware Retrieval and Representations aid Retention and Learning in Students
  Preprint
  Matthew Shu*, **Nishant Balepur***, Shi Feng*, Jordan Boyd-Graber

- It's Not Easy Being Wrong: Large Language Models Struggle with Process of Elimination Reasoning
  ACL 2024 (Findings)
  Nishant Balepur, Shramay Palta, 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
- Mastering the ABCDs of Complex Questions: Answer-Based Claim Decomposition for Self-Evaluating LLMs
  Preprint
  Nishant Balepur, Jie Huang, Samraj Moorjani, Kevin Chen-Chuan Chang, Hari Sundaram
- 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

Adobe	San Jose, CA
Research Scientist Intern: LLM Agents, Summarization (Paper Under Review)	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 and second-authored papers under review

- **Jerry He** (HS Student), 2024-Present, Crossword Generation with LLMs

PROFESSIONAL SERVICE

Conference Reviewer	UMD
Reviewer for: ACL/ARR 2023-Present, COLING 2024, IEEE TASLP 2024	2022-Present
Program Committee: TrustNLP 2024	
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	
MASC-SSL 2024 Best Paper Award	April 2024
Selected for one of three (4%) best paper awards for "Artifacts or Abduction"	
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	