# Nishant Balepur

#### Research Interests

I am a Ph.D. student in computer science at the University of Maryland, College Park, working with Professors Jordan Boyd-Graber, Rachel Rudinger, and Hal Daumé III. I conduct research at the intersection of natural language processing, information retrieval, and AI safety, where I design methods to help language models reliably and safely convey knowledge to users. I am extremely grateful to be funded by the NSF Graduate Research Fellowship Program.

### EDUCATION

# University of Maryland, College Park (UMD)

College Park, MD

Website: nbalepur.github.io

Emails: nbalepur@umd.edu, nishantbalepur@gmail.com

Ph.D. Computer Science

Aug 2023 - Present

Advisors: Professors Jordan Boyd-Graber, Rachel Rudinger, Hal Daumé III

#### 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 Diyi Yang, Jiawei Han, Kevin Chen-Chuan Chang, Hari Sundaram

Relevant Courses: Data Structures, Algorithms, Natural Language Processing, Data Mining, Social and Information Networks, Formal Models of Computation, Applied Machine Learning, Unsupervised Learning Skills: Python, R, SQL, Java, C/C++, PHP, HTML/CSS/JS, OCaml, NLP, ML, IR, Data Science, Web Dev

#### Publications and Written Work

• DynaMiTE: Discovering Explosive Topic Evolutions with User Guidance Findings of the Association for Computational Linguistics (ACL 2023) Nishant Balepur\*, Shivam Agarwal\*, Karthik Ramanan, Susik Yoon, Diyi Yang, Jiawei Han

• Expository Text Generation: Imitate, Retrieve, Paraphrase arXiv:2305.03276 (Under Review)

Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang

• Mastering the ABCDs of Complex Questions: Answer-Based Claim Decomposition for Self-Evaluating LLMs  $arXiv:2305.14750 \ (Under \ Review)$ 

Nishant Balepur, Jie Huang, Samraj Moorjani, Kevin Chen-Chuan Chang, Hari Sundaram

• Text Fact Transfer

Under Review

Nishant Balepur, Jie Huang, Kevin Chen-Chuan Chang

• Aligning Language Models with Factuality and Truthfulness Undergraduate Senior Thesis

Nishant Balepur, Kevin Chen-Chuan Chang

# Research Experience

# Feet Thinking Lab / RLab

UMD

Professor Jordan Boyd-Graber / Professor Rachel Rudinger

• Improving user knowledge acquisition in flashcard-based apps through human-LLM collaboration

• Studying the capability of LLMs to perform process-of-elimination style reasoning

# Forward Data Lab

UIUC

Professor Kevin Chen-Chuan Chang

Aug 2021 - June 2023

Aug 2023 - Present

- Investigating methods to improve the factuality, truthfulness, and reliability of LLMs
- $\circ$  Resulted in three EMNLP 2023 submissions

# **Data Mining Group**

UIUC

Professor Jiawei Han

Aug 2022 - Dec 2022

- Developing models for discovering temporal patterns in large, unlabeled document collections
- Resulted in Findings of ACL 2023 conference paper

#### Work Experience

Meta Software Engineering Intern Menlo Park, CA

May 2022 - Aug 2022

- Collaborated with machine learning engineers and research scientists on the Facebook Creators Well-being team
- Fronted a 15% drop in negative interactions across the one billion users on the Facebook platform

HiMarley

Remote

Data Science Intern

May 2021 - Aug 2021 Champaign, IL

State Farm Actuarial and Modeling Intern

Aug 2020 - Dec 2020

Remote

Jun 2020 - Aug 2020

John Deere Software Engineering Intern