

# Shramay Palta

UNIVERSITY OF MARYLAND, COLLEGE PARK

4108, Brendan Iribe Center for Computer Science and Engineering

✉ spalta@umd.edu | 🏠 shramay-palta.github.io | 🔗 shramay-palta | in shramay-palta | 🐦 @PaltaShramay | 🎓 Shramay Palta

## Summary

I am broadly interested in the areas of **Natural Language Processing (NLP)** and **Computational Linguistics**, with a focus on **Explainability**, **Commonsense Reasoning** and **Bias and Fairness in NLP**.

## Education

### University of Maryland, College Park

DOCTOR OF PHILOSOPHY, COMPUTER SCIENCE. **GPA: 3.90/4.00**

Advisor: **Professor Rachel Rudinger**

College Park, Maryland, USA

AUGUST 2021 - PRESENT

### University of Maryland, College Park

MASTER OF SCIENCE, COMPUTER SCIENCE. **GPA: 3.90/4.00**

Advisor: **Professor Rachel Rudinger**

College Park, Maryland, USA

AUGUST 2021 - MAY 2023

### Birla Institute of Technology and Science, Pilani (BITS Pilani)

BACHELOR OF ENGINEERING, ELECTRICAL AND ELECTRONICS ENGINEERING **FIRST DIVISION**

Thesis Supervisor: **Dr. Ashok Agrawala (UMD)** and **Dr. Navneet Gupta (BITS)**.

Pilani, India

AUGUST 2017 - MAY 2021

## Research and Work Experience

### Computational Linguistics and Information Processing (CLIP) Lab

GRADUATE STUDENT UNDER PROF. RACHEL RUDINGER

- Using **explainability** techniques to determine the impact of model rationales on humans.
- Studying whether **Large Language Models** can perform **Process of Elimination** on downstream tasks like MCQs for commonsense reasoning.
- Investigating different forms of **biases** in **NLP models and datasets**.

College Park, Maryland, USA

NOVEMBER 2021 - PRESENT

### Human-Data Interaction Group, University of Maryland

GRADUATE RESEARCH ASSISTANT UNDER PROF. LEO ZHICHENG LIU

- Using **Natural Language Processing** Techniques to harvest design feedback from visualization comments on social media platforms like Reddit.

College Park, Maryland, USA

SEPTEMBER 2021 - MARCH 2022

### Maryland Information and Network Dynamics (MIND) Lab, University of Maryland

RESEARCH ASSISTANT UNDER PROF. ASHOK AGRAWALA (UNDERGRADUATE RESEARCH THESIS)

- Analyzing the spread of **COVID-19 and Flu virus** on campus using location and breathing data collected from **Spire Tags**.

College Park, Maryland, USA

MAY 2020 - FEBRUARY 2021

### Global Health Centre, Graduate Institute of International and Development Studies

RESEARCH INTERN UNDER DR. AMANDEEP GILL, EXECUTIVE DIRECTOR, UNSG'S PANEL ON DIGITAL COOPERATION

- Researched the role of **micro-narratives** as proxy variables to fill in missing data, and to develop **human-centered benchmarks** for **digital health** and used **natural language techniques** to study the social, health, and mental impacts of the **COVID-19** pandemic.

Geneva, Switzerland

MAY 2020 - OCTOBER 2020

### TurnoutNow LLC

DATA SCIENCE INTERN

- Using **real-time location data** from **IoT BLE Beacons** and **natural language generation** tools with live data connections to generate narratives for end users.

Lancaster, Pennsylvania, USA

MAY 2019-JULY 2019

## Publications

### It's Not Easy Being Wrong: Evaluating Process of Elimination Reasoning in Large Language Models – *Arxiv*

NISHANT BALEPUR, **SHRAMAY PALTA** AND RACHEL RUDINGER

### FORK: A Bite-Sized Test Set for Probing Culinary Cultural Biases in Commonsense Reasoning Models – *Findings of the 61st Conference of the Association for Computational Linguistics (ACL 2023)*

**SHRAMAY PALTA** AND RACHEL RUDINGER

### Investigating Information Inconsistency in Multilingual Open-Domain Question Answering – *Arxiv*

**SHRAMAY PALTA**, HAOZHE AN, YIFAN YANG, SHUAIYI HUANG AND MAHARSHI GOR

## Activities

**Reviewer:** ACL 2023, EACL 2023, EMNLP 2022

**Member:** CS Department Council, Graduate Admissions Committee, Graduate Student Committee (CS GradCo)

## Projects

### Rationalizing Commonsense Reasoning Questions

College Park, Maryland

COLLABORATION BETWEEN UMD AND AI2

JANUARY 2023 - PRESENT

- Determining whether the **plausibility ratings** of questions and options in isolation are predictive of the gold label.
- Picking questions from **commonsense reasoning datasets** like SOCIAL-IQA and CommonsenseQA and using different **explainability** methods to rationalize such questions.
- Presenting such questions and rationales to human annotators and determining the impact of model-generated rationales on humans to determine cases of **over-trust** and **over-reliance**.

### Process of Elimination with Large Language Models

College Park, Maryland

WORK WITH PROF. RACHEL RUDINGER

AUGUST 2023 - PRESENT

- Benchmarking multiple **LLMs** to determine whether they can perform **Process of Elimination** to pick incorrect answers in a downstream task like MCQs for Commonsense Reasoning.

### Using Explainability Methods for Human-in-the-loop Adversarial Question Dataset Generation

College Park, Maryland

WORK WITH PROF. JORDAN BOYD-GRABER AND PROF. HAL DAUMÉ

MAY 2023- PRESENT

- Using **Explainability** methods to aid users to write questions and generate **adversarial fact checking datasets**.

### Culinary Cultural Biases in Commonsense Reasoning

College Park, Maryland

WORK WITH PROF. RACHEL RUDINGER

NOVEMBER 2021- JANUARY 2023

- Investigated modern-day **commonsense reasoning** NLP Models and datasets like **CommonsenseQA** to determine if they have an implicit or explicit **cultural bias** baked into them.
- Introduced a new dataset, **FORK**, consisting of questions that can be used to stress test models using examples of cultural and social norms, and material and physical differences revolving around different culinary cultural practices and related customs. (Accepted to **Findings of ACL 2023** and presented at the **Third Workshop on Trustworthy Natural Language Processing**.)
- Demonstrated that models have **systematic cultural biases** aligned with **US** over non-US cultures.

## Skills

<b>Languages</b>	Python, R, SQL, Linux/Unix shell, Java, C++, C, Assembly Language.
<b>Tools</b>	Pandas, NumPy, NLTK, spacy, Transformers, Keras, TensorFlow, PyTorch, scikit-learn, Matplotlib, Jupyter, Git, $\text{\LaTeX}$ , MATLAB, MySQL.
<b>Key Courses</b>	Explainable Natural language Processing, CommonSense Reasoning and Natural Language Understanding, Natural Language Processing, How and Why AI Answers Questions, Human AI Interaction, Advanced Numerical Optimization.
<b>OS</b>	MacOS, Linux, Windows, FreeBSD.

## Achievements

<b>2022</b>	<b>Dean's Fellowship Award:</b> Awarded the Graduate School Dean's Fellowship Award for outstanding academic achievement.
<b>2021</b>	<b>Dean's Fellowship and Chair's Fellowship Award:</b> Awarded the Graduate School Dean's Fellowship and the Chair's Fellowship Award for outstanding academic achievement.
<b>2010</b>	<b>World Robot Olympiad:</b> Represented India at the World Robot Olympiad held in Manila, Philippines, and secured a <b>world rank of 31</b> in my category.
<b>2010</b>	<b>Indian Robot Olympiad:</b> Awarded the <b>1st Runners Up Award</b> in my category for the north chapter.