Ruchira Dhar

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ABOUT ME

PhD Researcher in NLP, AI and Cognition.

WORK EXPERIENCE

04/09/2023 – CURRENT Copenhagen, Denmark
DOCTORAL RESEARCHER (CS/NLP/AI) UNIVERSITY OF COPENHAGEN

1. The primary focus of my research is on compositionality and reasoning in AI.
2. Additionally, I am interested in investigating neural alignment in natural & artificial systems via techniques in NeuroAI and computational neuroscience.
3. My research also involves interdisciplinary formal scientific analyses to determine the core properties of AI systems.

09/02/2022 – 30/06/2023 Helsinki, Finland
ANALYTICAL LINGUIST (AI TEAM) FLOWRITE OY

1. Working with SOTA LLMs including analytical prompting methods,in-context learning, and fine-tuning.
2. Research-based evaluation of NLG outputs using insights from psycholinguistics, automated metrics, and human evaluation.
3. Working with different Deep Learning and Machine Learning Algorithms for the preprocessing and postprocessing of NLG Outputs

10/05/2021 – 05/02/2022 Pune, India
SPEECH EXPERT (NLG TEAM) CERENCE INC

1. Performed development of speech and text-based NLG pipelines for over 21 languages
2. Developed expertise in heuristics NLG methodologies and mastered working with over 10 internal tools in a short span.
3. Established work processes for cross-linguistic work with native speakers across the globe.

04/01/2021 – 06/05/2021 Hyderabad, India
ASSOCIATE ENGINEER (NLP ANALYST) KORE AI

1. Ideation, development, and deployment of chatbots for US-based clients of different industries.
2. Gained skills in dialogue development, conversational analysis, ontology creation, and applying the latest technology to practical business requirements.
3. Researched and implemented parts of the NLG pipeline like intent recognition, ontology development, and pos-tagging using libraries like NLTK and Spacy.

19/09/2020 – 11/12/2020 Delhi, India
JUNIOR RESEARCH FELLOW (LINGUISTICS) INDIAN INSTITUTE OF TECHNOLOGY DELHI

1. Worked with peer researchers in developing better insights into annotation techniques
2. Attended classes and assisted professors in the areas of computational linguistics & psycholinguistics

EDUCATION AND TRAINING

04/09/2023 – CURRENT Copenhagen, Denmark
PHD IN COMPUTER SCIENCE (ONGOING) University of Copenhagen

Website https://coastalcph.github.io/

01/08/2018 – 29/06/2020 Hyderabad, India
MASTERS IN LINGUISTICS The English and Foreign Languages University

Address Tarnaka, 500007, Hyderabad, India │ **Website** https://www.efluniversity.ac.in/ │ **Field of study** Arts and humanities │

Final grade Outstanding │

Thesis Thesis: "Navigating Truth Value Gaps: A Function Alteration Approach to The Analysis of Nominal Modification". Area-Mathematical Linguistics and Semantics. Supervisor- Dr Utpal Lahiri (Assoc. Professor, EFLU & PhD, MIT).

CONFERENCES AND SEMINARS

10/12/2024 – 15/12/2024 Vancouver, Canada
Unireps Workshop, Neural Information Processing Systems (NeurIPS, 2024)

My co-first author paper titled **"Investigating the role of modality and training objective on representational alignment between transformers and the brain"** was accepted to the workshop.

12/11/2024 – 16/11/2024 Miami, Florida
Main Conference, Empirical Methods in Natural Language Processing (EMNLP, 2024)

My work with co-author Constanza Fierro, titled " **Defining Knowledge: Bridging Epistemology and Large Language Models",** was accepted to the main conference proceedings.

Link https://arxiv.org/abs/2410.02499

22/09/2024 – 25/09/2024 Tuscany, Italy
Advanced Course in AI & Neuroscience (ACAIN, 2024)

My abstract for a talk with co-author Ninell Oldenburg, titled "**The Completeness Problem:Beyond Human Metrics in Assessing Capabilities of Cognitive Systems"** was accepted at the Oral Proceedings of the symposium.

21/07/2024 – 27/07/2024 Vienna, Austria
LLM & Cognition Workshop,International Conference on Machine Learning (ICML, 2024)

My first author paper titled "From Words to Worlds: Compositionality For Cognitive Architectures" was accepted to the workshop.

Link https://arxiv.org/abs/2407.13419

16/05/2024 – 17/05/2024 Gottingen, Germany
Agency and Intentions in AI Workshop (AIAI, 2024)

My abstract on ongoing research in Compositionality in LLMs was accepted via peer review and I was invited for a talk at the workshop.

Link https://ail-workshop.github.io/aiai-conference/index.html

HONOURS AND AWARDS

08/01/2020
Junior Research Fellowship in Linguistics – University Grants Commission, Government of India

Received 99 percentile score in national-level examination in Linguistics for prestigious research grant. Qualification in the exam also makes one eligible for posts of Assistant Professor in all government-recognized institutes across India.

Link https://drive.google.com/drive/folders/1TOospBxSe4rrX6p61Pu1fnrT7BvmHQNT?usp=share_link

VOLUNTEERING

01/09/2024 – CURRENT Cohere For AI
Community Lead Volunteer, C4AI

I volunteer as a community lead at the online forum for Cohere4AI where I organize talks, research social and provide guidance to researchers for fostering our open science community.

01/04/2017 – 01/12/2017 Leiden University, Netherlands (Remote)
Online Forum Volunteer (Linguistics Course on Coursera)

Mentoring learners and regulating them on the MOOC 'Miracles of Human Language" by Leiden University on Coursera.

DIGITAL SKILLS

Programming

Python | R | SQL | HTML

NLP

Pandas | Spacy | Machine Learning Basics | Tensorflow | Scikit-Learn