



# Subhabrata Dutta

## Senior Research Associate IIT Delhi

Primarily, working on emergent properties of Large Language Models focused on Reasoning, Prompt engineering, and Mechanistic interpretation. Also, have prior experience working on Social data mining and Graph representation learning.

### PERSONAL DETAILS

✉ subha0009@gmail.com

📄 <https://scholar.google.com/citations?user=aoaCs08AAAAJ>

📄 <https://www.semanticscholar.org/author/50757931>

📄 <https://dblp.org/pid/204/6929.html>

### EDUCATION

#### PhD

Jadavpur University  
2023

#### M.E. (Computer Science)

Jadavpur University  
2016

#### B.E. (Computer Science)

Jadavpur University  
2014

### RESEARCH EXPERIENCE

#### Senior Research Associate IIT Delhi

2022 -

Project title: **"Separating the what from the how in Pretrained Language Models: A step towards generic AI"**

Funded by: Defence Research and Development Organisation (DRDO), Ministry of Defense, Govt, of India.

Project title: **"Exploring the roles of Network Topology, Temporal Online Interactions, and Downstream Tasks in Graph Representation"**

Funded by: Meta, Inc.

Project title: **"Mixed context learning with LLMs under Low-resource setting"**

Funded by: Adobe Research, India

#### Junior Research Fellow

2021 - 2022

#### Jadavpur University

Project title: **"Claim Detection and Verification using Deep NLP: an Indian Perspective"**

Funded by: Defence Research and Development Organisation (DRDO), Ministry of Defense, Govt, of India.

#### Junior Research Fellow

2018 - 2021

#### Jadavpur University

West Bengal State Government Fellowship

### SELECTED PUBLICATIONS

Please check Google Scholar for an exhaustive list of publications.

Gurusha Juneja\*, Subhabrata Dutta\*, Soumen Chakraborty, Sunny Manchanda, and Tanmoy Chakraborty. **Small Language Models Fine-tuned to Coordinate Larger Language Models improve Complex Reasoning.** (To appear at EMNLP 2023)

Eshaan Tanwar\*, Subhabrata Dutta\*, Manish Borthakur, and Tanmoy Chakraborty. **Multilingual LLMs are Better Cross-lingual In-context Learners with Alignment.** Annual Meeting of the Association for Computational Linguistics (ACL Outstanding paper), 2023.

Vasu Goel\*, Dhruv Sahnani\*, Subhabrata Dutta\*, Anil Bandhakavi, and Tanmoy Chakraborty. **Hatemongers ride on echo chambers to escalate hate speech diffusion.** PNAS Nexus. 2023.

Subhabrata Dutta\*, Jeevesh Juneja\*, Dipankar Das, and Tanmoy Chakraborty. **Can Unsupervised Knowledge Transfer from Social Discussions Help Argument Mining?** Annual Meeting of the Association for Computational Linguistics (ACL), 2022.

Subhabrata Dutta, Samiya Caur, Soumen Chakrabarti, and Tanmoy Chakraborty. **Semi-supervised stance detection of tweets via distant network supervision.** ACM International Conference on Web Search and Data Mining (WSDM), 2022.

## ACHIEVEMENTS

Outstanding paper award  
ACL, 2023

Secured All India Ranking 16  
GATE (2014)

Computer science and  
engineering

Rank holder  
Madhyamik Pariksha (2007)  
West Bengal Board of  
Secondary Education

## HOBBIES

Chess

Painting

Reading

Subhabrata Dutta, Shravika Mittal, Dipankar Das, Soumen Chakrabarti, and Tanmoy Chakraborty. **Incomplete Gamma Integrals for Deep Cascade Prediction using Content, Network, and Exogenous Signals**. IEEE Transactions on Knowledge and Data Engineering (TKDE). 2022.

Subhabrata Dutta, Tanya Gautam, Soumen Chakrabarti, Tanmoy Chakraborty. **Redesigning the Transformer Architecture with Insights from Multi-particle Dynamical Systems**. Advances in Neural Information Processing Systems (NeurIPS Spotlight), 2021.

Subhabrata Dutta, Sarah Masud, Soumen Chakrabarti, Tanmoy Chakraborty. **Deep Exogenous and Endogenous Influence Combination for Social Chatter Intensity Prediction**, ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2020.

Subhabrata Dutta, Dipankar Das, Tanmoy Chakraborty. **Modelling Engagement Dynamics of Online Discussions using Relativistic Gravitational Theory**, 19th IEEE International Conference on Data Mining (ICDM), 2019.

\*Equal contribution.

## TEACHING EXPERIENCE

### Guest Faculty

**Jadavpur University, Kolkata**

Taught Module titled 'C programming and data structure'

2018 - 2019

### Guest Faculty

**Jadavpur University, Kolkata**

Taught Module titled 'C programming and data structure'

2017 - 2018

### Guest Faculty

**Jadavpur University, Kolkata**

Taught Module titled 'Computer graphics'

2017 - 2018

### Guest Faculty

**RCCIT, Kolkata**

Taught Module titled 'Advanced data structures and algorithms'

2017 - 2018

### Guest Faculty

**Aliah University, Kolkata**

Taught Module titled 'Natural language processing'

2017 - 2018

## REFERENCES

Dr. Tanmoy Chakraborty  
Prof. Soumen Chakrabarti

Associate Professor, IIT Delhi  
Professor, IIT Bombay

tanchak@ee.iitd.ac.in  
soumen@cse.iitb.ac.in