

Anubrata Das, Ph.D.

anubrata.github.io • anubrata.das[at]utexas.edu

Research Interests

My research integrates Artificial Intelligence (specifically Natural Language Processing) and Human–Computer Interaction with the primary goal to develop trustworthy AI that augments human experts. I develop [model-centric approaches to interpretability, explainability, and fairness](#), and [employ HCI methods to engage with stakeholders](#) at different stages of the AI development pipeline.

Education

University of Texas at Austin

Ph.D., School of Information

Austin, Texas

05/2025

- Dissertation: Towards Human-Centered and Trustworthy Natural Language Processing
- Co-advisors: Matt Lease (iSchool, Computer Science); Junyi Jessy Li (Linguistics)

Indian Institute of Engineering Science and Technology Shibpur

Bachelor of Engineering, Department of Computer Science and Technology

Kolkata, India

06/2015

Employment

McCombs School of Business, University of Texas at Austin

Postdoctoral Scholar

Graduate Research Assistant

Austin, Texas

06/2025 – Present

09/2024 – 05/2025

- Mentors: Maytal Saar-Tsechansky, Liu Leqi

AI & HCC Lab, University of Texas at Austin

Graduate Research Assistant

Austin, Texas

08/2018 – 05/2024

- Mentors: Matthew Lease, Junyi Jessy Li

Cisco Research, Responsible AI

Research Intern

New York City, NY

09/2023 – 12/2023

- Mentors: Ali Payani, Jayanth Srinivasa

Amazon Nova Responsible AI

Research Intern

New York City, NY

06/2023 – 09/2023

- Mentors: Kai-Wei Chang, Anna Rumshisky, Aram Galstyan, Manoj Kumar, Ninareh Mehrabi, Anil Ramakrishna, Rahul Gupta

Max Planck Institute of Informatics

Research Intern, Databases and Information Systems Group

Saarbrücken, Germany

06/2019 – 08/2019

- Mentor: Gerhard Weikum
- Project: *Systematic discovery of bias: A case study on Airbnb Listings*

Microsoft

Software Engineer

Hyderabad, India

11/2016 – 07/2018

- Built and maintained a marketing management tool for Microsoft Universal Store

Mu Sigma
Decision Scientist

Bangalore, India
08/2015 – 10/2016

- Design and build research prototypes for algorithmic trading using machine learning

Indian Institute of Management Calcutta
Undergraduate Research Assistant, Management Information Systems Group

Kolkata, India
10/2012 – 09/2015

- Mentor: Somprakash Bandyopadhyay

Indian Institute of Technology Kharagpur
Research Intern, Complex Networks and Research Group

West Bengal, India
05/2013 – 07/2013

- Mentor: Saptarshi Ghosh

Publications [Google Scholar]

* denotes equal contribution

Work in progress

2. Femi Bello, **Das, Anubrata**, Fanzhi Zeng, Fangcong Yin, and Liu Leqi. Linear Representation Transferability Hypothesis: Leveraging Small Models to Steer Large Models. *preprint arXiv:2506.00653*, 2025. Under review at NeurIPS 2025
1. **Das, Anubrata**, Liu Leqi, and Maytal Saar-Tsechansky. Information Assurance in Clinical LLMs with Unlearning. *Manuscript under preparation for MISQ Special Issue*, 2025

Conferences / Journals

13. **Das, Anubrata**, Manoj Kumar, Ninareh Mehrabi, Anil Ramakrishna, Anna Rumshisky, Kai-Wei Chang, Aram Galstyan, Morteza Ziyadi, and Rahul Gupta. On Localizing and Deleting Toxic Memories in Large Language Models. *Findings of the Association for Computational Linguistics, (NAACL Findings)*, 2025
12. Soumyajit Gupta, Venelin Kovatchev, **Das, Anubrata**, Maria De-Arteaga, and Matthew Lease. Finding Pareto trade-offs in fair and accurate detection of toxic speech. *Information Research an international electronic journal, (iConference)*, 2025
11. **Das, Anubrata***, Houjiang Liu*, Alexander Boltz*, Didi Zhou, Daisy Pinaroc, Matthew Lease, and Min Kyung Lee. Human-centered NLP Fact-checking: Co-Designing with Fact-checkers using Matchmaking for AI. *Proceedings of the ACM on Human-Computer Interaction, (CSCW)*, 2024. 🏆 **Best Paper Honorable Mention (Top 4%)** (Overall Acceptance Rate: 2,235 of 8,521 submissions, 26%)
10. **Das, Anubrata**, Houjiang Liu, Venelin Kovatchev, and Matthew Lease. The State of Human-centered NLP Technology for Fact-checking. *Information Processing & Management, Special Issue on Machine and Human Factors in Misinformation Management, (IPM Journal)*, 2023. (**Impact Factor: 6.9**)
9. Li Shi, Nilavra Bhattacharya, **Das, Anubrata**, and Jacek Gwizdka. True or false? Cognitive load when reading COVID-19 news headlines: an eye-tracking study. *Proceedings of the 2023 Conference on Human Information Interaction and Retrieval, (ACM SIGIR CHIIR)*, 2023
8. Li Shi, Nilavra Bhattacharya, **Das, Anubrata**, Matt Lease, and Jacek Gwizdka. The Effects of Interactive AI Design on User Behavior: An Eye-tracking Study of Fact-checking COVID-19 Claims. *ACM SIGIR Conference on Human Information Interaction and Retrieval, (ACM SIGIR CHIIR)*, 2022

7. **Das, Anubrata**, Houjiang Liu, Venelin Kovatchev, and Matthew Lease. The Need for Human-centered Design in Fact-checking Research. In *Information Processing & Management Conference (IPM Conference)*, 2022
6. Michael D Ekstrand, **Das, Anubrata**, Robin Burke, and Fernando Diaz. Fairness in Information Access Systems. *Foundations and Trends® in Information Retrieval, (FnTIR)*, 2022. **(100 page monograph; only student co-author)**
5. **Das, Anubrata***, Gupta, Chitrang*, Venelin Kovatchev, Matthew Lease, and Junyi Jessy Li. ProtoTEx: Explaining Model Decisions with Prototype Tensors. *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics, (ACL Main)*, 2022. **(Acceptance rate: 701 of 3378 submissions, 20.8%)**
4. Soumyajit Gupta, Gurpreet Singh, **Das, Anubrata**, and Matthew Lease. Pareto Solutions vs Dataset Optima: Concepts and Methods for Optimizing Competing Objectives with Constraints in Retrieval. *Proceedings of the 2021 ACM SIGIR International Conference on Theory of Information Retrieval, (ACM SIGIR ICTIR)*, 2021
3. **Das, Anubrata**, Brandon Dang, and Matthew Lease. Fast, accurate, and healthier: Interactive blurring helps moderators reduce exposure to harmful content. *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing, (AAAI HCOMP)*, 2020
2. **Das, Anubrata**, Samreen Anjum, and Danna Gurari. Dataset bias: A case study for visual question answering. *Proceedings of the Association for Information Science and Technology, (ASIS&T)*, 2019. **(Diversity and Inclusion Student Best Paper Award by the School of Information, UT Austin)**
1. **Das, Anubrata**, Moumita Roy, Soumi Dutta, Saptarshi Ghosh, and Asit Kumar Das. Predicting trends in the twitter social network: a machine learning approach. *International Conference on Swarm, Evolutionary, and Memetic Computing, (Springer SEMCCO)*, 2014

Workshops / Book Chapters

6. Trista Cao, **Das, Anubrata**, Tharindu Kumarage, Yixin Wan, Satyapriya Krishna, Ninareh Mehrabi, Jwala Dhamala, Anil Ramakrishna, Aram Galystan, Anoop Kumar, Rahul Gupta, and Kai-Wei Chang, editors. *Proceedings of the 5th Workshop on Trustworthy NLP (TrustNLP 2025)*. Association for Computational Linguistics, 2025. **(NAACL Workshop Report)**
5. Michael D Ekstrand, **Das, Anubrata**, Robin Burke, and Fernando Diaz. Fairness in recommender systems. In *Recommender systems handbook*, pages 679–707. Springer, 2022
4. **Das, Anubrata**, Kunjan Mehta, and Matthew Lease. CobWeb: A Research Prototype for Exploring User Bias in Political Fact-Checking. *ACM SIGIR Workshop on Fairness, Accountability, Confidentiality, Transparency, and Safety in Information Retrieval, (SIGIR FACTS-IR Workshop)*, 2019
3. Venelin Kovatchev, Trina Chatterjee, Venkata S Govindarajan, Jifan Chen, Eunsol Choi, Gabriella Chronis, **Das, Anubrata**, Katrin Erk, Matthew Lease, Junyi Jessy Li, et al. Longhorns at DADC 2022: How many linguists does it take to fool a Question Answering model? A systematic approach to adversarial attacks. In *Proceedings of the First Workshop on Dynamic Adversarial Data Collection*, 2022
2. Alexandra Olteanu, Jean Garcia-Gathright, Maarten de Rijke, Michael D Ekstrand, Adam Roegiest, **Das, Anubrata**, et al. FACTS-IR: fairness, accountability, confidentiality, transparency, and safety in information retrieval. *ACM SIGIR Forum, (SIGIR FACTS-IR Workshop Report)*, 2021
1. **Das, Anubrata**, Neeratyoy Mallik, Somprakash Bandyopadhyay, Sipra Das Bit, and Jayanta Basak. Interactive information crowdsourcing for disaster management using SMS and Twitter: A research prototype. *2016 IEEE International Conference on Pervasive Computing and Communication Workshops, (PerCom Workshops)*, 2016

Technical Reports

2. Prakhar Singh, **Das, Anubrata**, Junyi Jessy Li, and Matthew Lease. The Case for Claim Difficulty Assessment in Automatic Fact Checking. *arXiv preprint arXiv:2109.09689*, 2021
 1. **Das, Anubrata** and Matthew Lease. A Conceptual Framework for Evaluating Fairness in Search. *arXiv preprint arXiv:1907.09328*, 2019
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Presentations

Invited Talks

Information Assurance in Clinical LLMs through Unlearning

- MISQ Workshop on *Artificial Intelligence-Information Assurance Nexus: The Future of Information Systems Security, Privacy, and Quality*, 07/11/2025

Developing Language Technologies to Complement Human Capabilities

- Microsoft Research FATE Group, New York City, 02/16/2024
- McCombs School of Business, University of Texas at Austin, 02/12/2024

ProtoTex: Explaining Model Decisions with Prototype Tensors

- Research Colloquium, UT Austin, iSchool, 09/20/2022
- iSchools European Doctoral Seminar Series, 09/16/2022
- Amazon Science Clarify Team, 05/17/2022
- NEC Laboratories Europe, 06/09/2022

Commercial Content Moderation and Psychological Well-Being

- TxHCI - A seminar organized by HCI Researchers across Universities in Texas, 10/02/2020
- Amazon AWS Science, 10/14/2020
- Amazon Human-in-the-loop (HILL) services team, 10/23/2020
- ACM SIGCHI Mumbai Chapter, 26th Meet, 08/28/2021

Conference Presentations

On Localizing and Deleting Toxic Memories in Large Language Models. NAACL. 2025. Albuquerque, New Mexico.

Finding pareto trade-offs in fair and accurate detection of toxic speech. iConference. 2025. Bloomington, Indiana.

ProtoTex: Explaining Model Decisions with Prototype Tensors. ACL. May 2022. Dublin, Ireland.

You are what you tweet: Profiling users by past tweets to improve hate speech detection. iConference. March 2022. Virtual Conference.

Exfacto: An explainable fact-checking tool. Knight Research Network Tool Demonstration Day, 2021. Virtual Conference.

Fast, Accurate, and Healthier: Interactive Blurring Helps Moderators Reduce Exposure to Harmful Content. AAAI HCOMP 2020. Virtual Conference.

Dataset bias: A case study for visual question answering. ASIS&T 2019. Melbourne, Australia.

CobWeb: A Research Prototype for Exploring User Bias in Political Fact-Checking. ACM SIGIR Workshop on Fairness, Accountability, Confidentiality, Transparency, and Safety in Information Retrieval (FACTS-IR), 2019. Paris, France.

Local Presentations

ProtoTex: Explaining Model Decisions with Prototype Layers. Research Colloquium, School of Information, University of Texas at Austin. November 2021. Lightning Talk.

ProtoBART: Explaining Model Decisions with Prototype Layers. TACCSTER: TACC Symposium for Texas Researchers. September 2021. Lightning Talk.

Funding

- Evaluating Example-based Explainable Models in Large Language Models. **Amazon AWS Cloud Credit for Research**. Funding period: 11/30/2022 - 11/30/2023. **26,000 USD** (AWS Service Credits).
 - **UT Good Systems Grand Challenge** — Graduate Student Grant Proposal. **Anubrata Das**, Chenyan Jia, Shivam Garg. Supervisor: Min Kyung Lee. *Designing algorithmic nudge to reduce inadvertent COVID-19 misinformation sharing on social media*. Awarded - USD 7000.
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🏆 Awards and Honors

- **Rising Star in Data Science** 2025
 - Organized by Stanford University in collaboration with University of California, San Diego, and the University of Chicago
 - **Best Paper Honorable Mention Award (CSCW 2024) (top 3%)** 2024
 - Annual Diversity & Inclusion Best Student Paper Award 2019
 - Das et al., ASIS&T 2019 (see the publication section above)
 - Awarded by the School of Information, University of Texas at Austin
 - Spot Award - Mu Sigma Inc. 2016
 - Awarded by the Innovation and Development Team
 - Interactive visualization for Stock Market as a network
 - Class of 1990 Award: Excellence in Leadership 02/2014
 - Awarded by the Global Alumni Association of BESU (now IEST)
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Service

Workshop Organization

- TrustNLP 2025 at NAACL 2025

Program Committees and Reviewing

- SIGIR Algorithmic Bias Workshop 2025; CoLM 2024, 2025; ACM FAccT 2025; ACL Rolling Review 2022, 2023, 2024; AAAI AIES 2022; BlackboxNLP Workshop 2022; CHI 2021, 2022; CSCW 2021, 2022, 2023; The Web Conference 2021; Annual Meeting of the Association for Information Science and Technology: 2019, 2020; Journal: Information Processing and Management

Conference Volunteer

- NAACL 2025; ACL 2022; CSCW 2019

University Committees

- Assistant Professor Hiring Committee 2020-2021
 - Doctoral Studies Committee, School of Information, 2019-2020
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Teaching and Mentoring

- Teaching Assistant *Fall 2020*
 - INF385T.3 / CS395T: Human Computation and Crowdsourcing by Dr. Matt Lease
 - Three tutorials on Amazon Sagemaker Ground Truth for collecting data annotations
 - Co-Supervising student research with Dr. Matt Lease *01/2022 - 06/2022*
 - Undergraduate thesis on Active Learning with Natural Language Rationales
 - Featured in UT Austin, College of Natural Sciences News
 - Co-Supervising undergraduate research group with Dr. Matt Lease *06/2020 - 08/2021*
 - A group of ten students
 - Working on fact-checking using NLP and Human-computation methods
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Skills

Research Methodologies: Experimental Design, User Study, Crowdsourcing,
Natural Language Processing, Machine Learning, Inferential Statistics

Programming Languages: Python, R, JavaScript, SQL

Technologies: Flask, Pytorch, Scikit-Learn, NLTK, SciPy, NumPy, Git

Survey Tools: Qualtrics

Crowdsourcing: Amazon Mechanical Turk, AWS Sagemaker Ground Truth, Prolific

Languages: Fluent in English and Bengali, Knowledge of Hindi
