

Tatiana Chakravorti

[Homepage](#) | tfc5416@psu.edu | [Google Scholar](#) | [LinkedIn](#)

Education

Pennsylvania State University

Ph.D., Informatics | Advisor: Dr. Sarah Rajtmajer

University Park, Pennsylvania, USA

Expected June 2026

West Bengal University of Technology

MTech, Electronics and Communication Engineering

BTech, Electronics and Communication Engineering

India

2014

2011

Research and Teaching Areas

Human-Computer Interaction, Human-Centered AI, Human AI interaction, Open Science Practices, Survey Design and analysis, Qualitative methods, and Quantitative methods.

Research Experience

Research Assistant

Pennsylvania State University, USA

Responsible AI for Peer Review

2023-Present

- Interview-based study with a follow-up quantitative analysis of the AI and Social Science journal editors to understand how they are adopting open science practices and using AI tools responsively. Statistical and thematic analysis to understand the collected data.
- Mixed method to understand how conferences are adopting these practices and evaluating the artifacts.

AI for Synthesizing Social Science Knowledge Project

2023-Present

- Survey-based study with social science researchers on how they perceive AI technologies in their whole research life cycle. Statistical and thematic analysis to understand the collected data.

Air Force Office of Scientific Research Project

2023-Present

- Building AI agents to engage in strategic social planning to use representations of people, places, and things that vary in their level of abstraction. Comparing their performance with human players. Analyzing the trading data and chat logs.

Defense Advanced Research Projects Agency (SCORE Project)

2021-2022

- Predicting research replicability using human-AI collaboration.
- Opportunities and limitations of AI-empowered tools to support reproducible and replicable research workflows using user testing.
- Design implementation of Human AI collaboration and key features for the AI-empowered tool according to the researchers. Usability testing of our proposed Tool for replicability prediction.
- Interview and Observations with researchers on reproducibility crisis and open science.
- Survey with geographically diverse researchers and statistical analysis with the data.

Research Assistant

Siksha 'O' Anusandhan University, India

Microgrid Disturbance Detection

2015-2018

- Detection and classification of different disturbances in microgrids using signal processing and different machine-learning techniques.

Project Assistant Intern

University of Applied Science, Augsburg, Germany

LINDA Project

2017

- Analyzing the data collected from the Local Island Power Supply with Distributed Generation Systems in Case of Large-Scale Blackouts.

Teaching Experience

Graduate Teaching Assistant

Pennsylvania State University, USA

- Language, Logic, and Discrete Math Fall2023-Fall2024
- Privacy and Security for Data Sciences Fall2022
- Foundations of Data Privacy Spring2022
- Seminar for Data Science Spring2022

Assistant Professor

KL University, India

- Teaching Machine Learning, communication, and basic Python 2019-2020
- Supersized B.Tech Projects (2 students in each group)
 - Real World Anomaly Activity Detection in Surveillance Videos using Deep Learning.
 - Power Quality Pattern Recognition and Classification using the HHT and Fuzzy Logic.
 - Detection and Classification of COVID-19 using convolutional neural network.

Visiting Faculty

Sudhir Chandra Sur Degree Engineering College, India

- Teaching Basic Electronics and Communication 2014

Grants submitted

Ethical use of LLMs for Open Science and Peer Review at Penn State IST (Submitted) \$25,232

Skills

Programming Language: Python, SPSS, MATLAB/Simulink, C

Analysis Methods: **Qualitative:** Interview, observation, usability, diary study, focus group; **Quantitative:** Survey, user testing, statistical analysis; machine learning **UX:** scenarios, personas, storyboarding.

Awards

AIES 2024 student program (\$1200)	2024
Penn State Diversity Award to attend Grace Hopper Conference (\$1500)	2024
Travel award for ICSSI (\$1500)	2024
Honorable Mention Poster Award: "EXCELLENCE AT CAPWIC."	2023
Travel award for CAPWIC (\$500) (two times)	2022-23
Travel award for Metascience Conference (\$1500)	2022
IST Travel Award for AAMAS Conference (\$1800)	2022

Lightning Talk, Workshops, and Poster Presentations

Lightning talk: Selected for AIMOS24 conference in Australia.	2024
Research Talk: International Research Culture Conference (Virtual) in the UK.	2024
Research Talk: OpenFest online symposium 'Towards an Open Research Culture' at the University of Sheffield, England. (Virtual)	2024
Poster Presentation at the International Conference on Science of Science and Innovation (ICSSI).	2024
Research Talk: Presented at ACM Capital Region Celebration of Women in Computing at the University of Virginia.	2024

Lightning talk: Presented at the AIMOS23 conference, in Australia.	2023
Poster Presentation: Hybrid Prediction Markets for Estimating Research Reproducibility, ACM Capital Region Celebration of Women in Computing, Virginia.	2023
Poster Presentation: Human AI collaboration for the artificial prediction markets, Rao Conference, Pennsylvania State University, State College.	2023
Workshop presentation: Designing Hybrid Crowd +AI Prediction Markets for Estimating Scientific Replicability, Human Machine Collaboration Workshop, Paris, 2022.	2022

Service and Leadership

Center for Socially Responsible Artificial Intelligence at Penn State University Student Affiliate	2024
Workshop on Research Integrity at Penn State University Organizing Committee Member	2024
AIMOS Conference, Australia Organizing Committee Member	2024
C-CHI, CHI, CSCW, AIMOS Conference Paper Reviewer	2023-Present
International wing of KL University, India Departmental Coordinator	2019-2020
Electronics and Computer Science Department, KL University, India Library In-charge	2019-2020
Electronics and Computer Science Department, KL University, India Course Coordinator	2019-2020
IEEE Power, Communication and Information Technology, India Organizing Committee Member	2015

Publications: Conferences

1. [Under Review] **Tatiana Chakravorti**, Sai Koneru, and Sarah Rajtmajer; ““I am okay with machine learning, but I am deeply skeptical of generative AI”: Perceptions, Benefits and Concerns from Social Science Researchers”.
2. [Under Review] **Tatiana Chakravorti**, Chuhao Wu, Sai Koneru, and Sarah Rajtmajer. “Perspectives from India: Opportunities and Challenges for AI Replication Prediction to Improve Confidence in Published Research”.
3. [Under Review] **Tatiana Chakravorti**, Sanjana Gautam, Priya Silverstein, and Sarah Rajtmajer; “Open Science Practices by Early Career HCI Researchers: Perceptions, Challenges, and Benefits”.
4. Pranav Narayanan Venkit, **Tatiana Chakravorti**, Vipul Gupta, Heidi Biggs, Mukund Srinath, Koustava Goswami, Shomir Wilson, Sarah Rajtmajer, “A Confident Misinformation”: A Critical Survey on the Perspectives and Challenges of ‘Hallucinations’ in NLP”. (*Accepted for EMNLP Main Conference*)
5. Chuhao Wu, **Tatiana Chakravorti**, and Sarah Rajtmajer. “Integrating measures of replicability into literature search: Challenges and opportunities”, *Accepted in CHI Conference on Human Factors in Computing Systems 2024*.
6. **Chakravorti, Tatiana**, Robert Fraleigh, Timothy Fritton, Michael McLaughlin, Vaibhav Singh, Christopher Griffin, Anthony Kwasnica, David Pennock, C. Lee Giles, and Sarah Rajtmajer. "A Prototype Hybrid Prediction Market for Estimating Replicability of Published Work." In *HHAI 2023: Augmenting Human Intellect*, pp. 300-309. IOS Press, Germany, 2023.
7. **Chakravorti, Tatiana**, Vaibhav Singh, Sarah Rajtmajer, Michael McLaughlin, Robert Fraleigh, Christopher Griffin, Anthony Kwasnica, David Pennock, and C. Lee Giles. "Artificial Prediction Markets Present a Novel Opportunity for Human-AI Collaboration." In *Proceedings of the 2023 International Conference on Autonomous Agents and Multiagent Systems*, pp. 2304-2306, London, 2023.
8. **Chakravorti, Tatiana**, Vinay Kumar Addala, and J. Shivam Verma. "Detection and classification of COVID 19 using convolutional neural network from chest X-ray images." In *2021 sixth international conference for convergence in technology (I2CT)*, pp. 1-6. IEEE, India, 2021.
9. **Chakravorti, Tatiana**, and Penke Satyanarayana. "Classification of power quality disturbances using adaptive variational mode decomposition based random vector functional link network." In *2019 IEEE Region 10 Symposium (TENSYP)*, pp. 721-726. IEEE, India, 2019.
10. Das, Debashreeta, **Tatiana Chakravorti**, and P. K. Dash. "Hilbert huang transform with fuzzy rules for feature selection and classification of power quality disturbances." In *2017 4th IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics (UPCON)*, pp. 439-445. IEEE, India, 2017.

11. **Chakravorti, Tatiana**, and P. K. Dash. "Morphology based fuzzy approach for detection & classification of simultaneous power quality disturbances." In *2016 IEEE Annual India Conference (INDICON)*, pp. 1-6. IEEE, India, 2016.
12. **Chakravorti, Tatiana**, R. K. Patnaik, and P. K. Dash. "A morphological filter-based disturbance detection and classification technique for DFIG wind farm based microgrid." In *2015 IEEE Power, Communication, and Information Technology Conference (PCITC)*, pp. 979-985. IEEE, India, 2015.

Publications: Journals

1. [Under Review] **Chakravorti, Tatiana**, Sai Koneru and Sarah Rajtmajer. "Reproducibility, Replicability, and Transparency in Research Publications: What 452 Professors Think from Universities across USA and India". (*Revise and Resubmit PLOS ONE Journal*)
2. **Chakravorti, Tatiana**, and Penke Satyanarayana. "Non-linear system identification using kernel-based exponentially extended random vector functional link network." *Applied Soft Computing* 89 (2020): 106117.
3. Bisoi, Ranjeeta, **Tatiana Chakravorti**, and Nihar Ranjan Nayak. "A hybrid Hilbert Huang transform and improved fuzzy decision tree classifier for assessment of power quality disturbances in a grid-connected distributed generation system." *International Journal of Power and Energy Conversion* 11, no. 1 (2020): 60-81.
4. **Chakravorti, Tatiana**, Lipsa Priyadarshini, P. K. Dash, and Badri Narayan Sahu. "Islanding and non-islanding disturbance detection in microgrid using optimized modes decomposition based robust random vector functional link network." *Engineering Applications of Artificial Intelligence* 85 (2019): 122-136.
5. **Chakravorti, Tatiana**, N. R. Nayak, Ranjeeta Bisoi, P. K. Dash, and Lokanath Tripathy. "A new robust kernel ridge regression classifier for islanding and power quality disturbances in a multi-distributed generation based microgrid." *Renewable Energy Focus* 28 (2019): 78-99.
6. **Chakravorti, Tatiana**, and Pradipta Kishore Dash. "Multiclass power quality events classification using variational mode decomposition with fast reduced kernel extreme learning machine-based feature selection." *IET Science, Measurement & Technology* 12, no. 1 (2018): 106-117.
7. **Chakravorti, Tatiana**, Rajesh Kumar Patnaik, and Pradipta Kishore Dash. "Detection and classification of islanding and power quality disturbances in microgrid using hybrid signal processing and data mining techniques." *IET Signal Processing* 12, no. 1 (2018): 82-94.
8. **Chakravorti, Tatiana**, Rajesh Kumar Patnaik, and Pradipta Kishor Dash. "Advanced signal processing techniques for multiclass disturbance detection and classification in microgrids." *IET Science, Measurement & Technology* 11, no. 4 (2017): 504-515.
9. Nanda, Sarita, **Tatiana Chakravorti**, and P. K. Dash. "A new Taylor-LMS adaptive filter for parameter estimation of power signals including distributed generation systems." *Australian Journal of Electrical and Electronics Engineering* 13, no. 3 (2016): 174-194.
10. Nanda, Sarita, P. K. Dash, **Tatiana Chakravorti**, and Shazia Hasan. "A quadratic polynomial signal model and fuzzy adaptive filter for frequency and parameter estimation of nonstationary power signals." *Measurement* 87 (2016): 274-293.