PAYEL BHATTACHARJEE

Ph.D. Candidate in the Department of Electrical and Computer Engineering
University of Arizona

payelb@arizona.edu payelbhattacharjee09@gmail.com Tucson, Arizona, USA

EDUCATION

Ph.D. in Electrical and Computer Engineering

The University of Arizona

August, 2022 – present — Tucson, Arizona, USA

GPA: 3.75/4.00

Bachelor of Technology in Electronics & Telecommunication Engineering

Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar, Odisha, India

July 2017 – May, 2021 — Bhubaneswar, Odisha, India

GPA: 9.43/10.0

WORK EXPERIENCE

Graduate Research Assistant

University of Arizona

August, 2022 – present — Tucson, USA

Ph.D. Advisor: Dr. Ravi Tandon

Graduate Teaching Assistant

University of Arizona

August, 2022 – May, 2023 — Tucson, USA

GTA for the course ECE372

Associate Software Engineer

Bosch Global Software Technologies (BGSW)

July, 2021 – June, 2022 — Coimbatore, Tamilnadu, India

Project Intern

Robert Bosch Engineering and Business Solutions PVT LTD. (RBEI)

March, 2021 – June, 2021 — Coimbatore, Tamilnadu, India

SKILLS

- Trustworthy Machine Learning
- Differential Privacy
- Alignment and Fine-tuning of Large Language Models (LLMs)
- Text Classification with LLMs
- Multi-modal data analysis
- Causal Graph Discovery
- Causal Inference
- Medical Image Processing with Contrastive Learning Models (such as zero-shot CT-CLIP)
- Programming Languages: C,C++, Python, Matlab
- Collaborative and group project management

TRAININGS

Winter Training at R.C.P.L India

Topic : Embedded and Robotics Basics

January, 2019 — Bhubaneswar, India

Summer Training at Eduvance India

Topic : Embedded and IoT Training with hands on Experience on Cypress Semiconductor Board, Embed and Microchip board with Introduction to LoRa Communication

May, 2019 - June, 2019 — Bhubaneswar, India

AWARDS

Graduate and Professional Student Council Travel Grants

University of Arizona

December, 2024 — Tucson, Arizona, USA

People's Choice Award

Electrical and Computer Engineering 2024 Graduate Poster Symposium

March, 2024 — Tucson, Arizona, USA

KIIT Merit Scholarship

KIIT University

December, 2017 — Bhubaneswar, Odisha, India

RELEVANT GRADUATE COURSES

- Probability and Random Processes for Engineering Applications
- Introduction to Statistical Machine Learning
- Engineering Applications of Machine Learning and Data Analytics
- Information Theory
- Principles of Machine Learning
- Digital Signal Processing
- Digital Communications
- Principles of Computer Networking

EXTRA CURRICULAR ACTIVITY

Officer in the University of Arizona Department of Electrical and Computer Engineering Graduate Student Association (UofA ECE GSA).

PUBLICATIONS

Conference Papers

- **P. Bhattacharjee**, R. Tandon, *Adaptive Privacy for Differentially Private Causal Graph Discovery*, IEEE International Workshop on Machine Learning for Signal Processing (IEEE MLSP) 2024.
- **P. Bhattacharjee**, S.P Kar, N.K Rout, *Sleep and Sedentary Behavior Analysis from Physiological Signals with Machine Learning*, , IEEE Xplore Digital Library, April 2020.

Journal Papers

- **P. Bhattacharjee**, R. Tandon, *CURATE: Scaling up differentially private causal graph discovery*, MDPI Entropy Journal, 2024.

- **P. Bhattacharjee**, R. Garain, A. Basak, U.P. Singh, *Numerical Modeling and Performance Evaluation of SnS Based Heterojunction Solar Cell with p+ SnS BSF Layer*, , Optical and Quantum Electronics,Volume 54, article number 867, (2022), October 2022.

Pre-Prints

- **P Bhattacharjee**, F Tian, G.D Rubin, J.Y Lo, N Merchant, H Hanson, J Gounley, R Tandon, *Learning to Diagnose Privately: DP-Powered LLMs for Radiology Report Classification*, arXiv preprint arXiv:2506.04450 (2025) (Under Review)
- N Teku, F Tian, **P Bhattacharjee**, S Chakraborty, AS Bedi, R Tandon, *PROPS: Progressively Private Self-alignment of Large Language Models*, arXiv preprint arXiv:2508.06783, 2025 (Under Review)
- Z Guan, Z Zhao, F Tian, D Nguyen, **P Bhattacharjee**, R Tandon, B Aditya Prakash, A Vullikanti, *A Framework for Multi-source Privacy Preserving Epidemic Analysis*, arXiv preprint arXiv:2506.22342 (2025) (Preprint)