DEBARSHI CHAKRABORTY

Email | Homepage

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2438 Osborn Drive, Ames, Iowa - 50011, USA

INTRODUCTION

Exploring new opportunities to leverage my expertise in methodological and applied statistics. Aiming to contribute to innovative projects in interdisciplinary research.

EDUCATION

- **Iowa State University of Science and Technology** *Aug 2023 - Jul 2028 (expected)*
  PhD, Statistics Ames, USA
  ◦ GPA: 4.00/4.00

- **Indian Statistical Institute** *Sep 2021- Jul 2023*
  MS, Statistics Kolkata, India
  ◦ Grade: 78.1%, graduated with distinction

- **St. Xavier's College (Autonomous)** *Jul 2017 - Oct 2020*
  BS, Statistics Kolkata, India
  ◦ GPA: 8.2/10, graduated with first division

RESEARCH EXPERIENCE

- **Improving Causal Gene Detection across Crop and Livestock Species, USDA [⊕]** *Jan 2024 - Present*
  Research Assistant Ames, USA
  ◦ Supervised by Dr. Vivekananda Roy and Dr. Somak Dutta
  ◦ The R package **bravo** helps agronomy researchers in detecting significant SNPs and gene expressions which cause variation in phenotypic traits in plants
  ◦ Contributed in conducting a workshop for students and practitioners around the globe

- **Differential Expression Analysis of RNA Sequencing in *Arabidopsis Thaliana*[⊕]** *Spring 2025*
  Course Project Ames, USA
  ◦ In collaboration with Terryn Sears, Rishaniya Parthasarathy, Faith Olusegun
  ◦ Detecting whether the genes that express themselves under the influence of ABA exposure vary across different genotypes

- **A Semi Supervised Learning Approach for Colour Quantization in Massive Images[⊕]** *Fall 2024*
  Course Project Ames, USA
  ◦ Supervised by Dr. Ranjan Maitra
  ◦ Trying to develop a fast semi supervised algorithm to do colour quantization in massively large images.
  ◦ Idea is to artificially label a random sample of pixels from the large image and then do the prediction for the rest using some classifier.

- **A Study of Non Gaussian Graphical Models[⊕]** *October 2022- April 2023*
  MS dissertation, Indian Statistical Institute Ames, USA
  ◦ Supervised by Dr. Arindam Chatterjee
  ◦ Comprehensive study of Gaussian and Non gaussian graphical models, indicating limitations of existing methods and proposing some new multiple testing approach to recover graph structure, detailed simulations and real data analyses done. Primary focus on addressing challenges of high dimensional and nonparametric setups.

RESEARCH INTERESTS

- High Dimensional Data, Statistical Computing, Bayesian Methods, Statistical Genomics, Nonparametric Statistics

TEACHING EXPERIENCE

- **Department of Statistics, Iowa State University [⊕]** *Aug 2023 - Dec 2023*
  Teaching Assistant Ames, USA
  ◦ Lab Instructor and grader for STAT 341 (Introduction Theory of Probability and Statistics I)

- **Cheenta School of Statistics and Data Science [⊕]** *September 2021 - July 2023*
  Guest Faculty Ames, USA
  ◦ Developed and taught courses like Probability Theory, Statistical Inference, Survey Sampling and Linear Models to undergraduate statistics and mathematics students

COURSE PROJECTS AND PRESENTATIONS

- **On a Nonparametric Test for Independence** *Fall 2023*
  Nonparametric Statistics course at Iowa State [◯]
  ◦ Paper review and simulation study of a paper which brings together two famous measures to test for independence

- **On a Robust Correlation Coefficient** *Spring 2023*
  Robust Statistics course at Indian Statistical Institute [◯]
  ◦ Reviewed a paper of JRSSD, implemented on real data and indicated limitations of the method

- **A Study on Kernel Density Estimation** *Spring 2022*
  Nonparametric Statistics course at Indian Statistical Institute [◯]
  ◦ Comprehensive study of literature on KDE, using simulations and real data examples to demonstrate different asymptotic properties

TECHNICAL SKILLS

- **Programming Languages:** R, Python, C++, C
- **Web Technologies:** HTML, CSS

HONORS AND AWARDS

- **Holly C and E Beth Fryer Award** *August 2024*
  Iowa State University [⊕]
  ◦ Awarded to a top student in their PhD second year for superior performance in statistics core courses

- **Inspire Scholarship** *January 2018*
  Department of Science and Technology, Government of India [⊕]
  ◦ Awarded to top 1% of high school graduates of every state / central education board

POSITION OF RESPONSIBILITY

- **Vice President** *Aug 2024 - Jul 2025*
  STATers, Iowa State University [⊕]
  ◦ Responsible for organizing events and finding opportunities that help in professional development of graduate students, including but not limited to company visits, internship panels, research forums between students and faculty, etc

VOLUNTEER EXPERIENCE

- **Student Mentor** *Aug 2024- present*
  Department of Statistics, Iowa State University [⊕]
  ◦ Help and guide first year graduate students starting their journey as a researcher

- **Prayas Camp** *June 2019*
  National Service Scheme (NSS), India [⊕]
  ◦ Serve as a volunteer in a one week long camp which helps poor and underprivileged school children get the exposure of modern education, healthcare system, laws,etc by involving them in fun activities like role playing, movies and city tours

ADDITIONAL INFORMATION

Languages: English (Full professional proficiency), Bengali (Native speaker), Hindi (Full professional proficiency)
Interests: Table Tennis, Cricket, Swimming, Art, Photography, Traveling, Cooking, Reading novels