Souhardya Sengupta

Curriculum Vitae

Department of Statistics
Harvard University
Science Center
One Oxford Street
Cambridge, MA - 02138, USA

Email: ssengupta@g.harvard.edu
Phone: +1-(857)-253-1345
Github: https://github.com/SSouhardya

Biosketch

Souhardya Sengupta is a fourth year Ph.D. candidate in the Department of Statistics at Harvard University where he works on high-dimensional inference, selective inference and causal inference.

Education

Harvard University (Cambridge, MA, USA), Ph.D. in Statistics, 2022-2027 (Expected).
Advisors: Lucas Janson and Kosuke Imai.

Harvard University (Cambridge, MA, USA), M.A. in Statistics, 2024.

Indian Statistical Institute (Kolkata, WB, India), M.Stat., *First division with distinction*, 2020-2022.
Advisors: Anil K. Ghosh and Shyamal K. De.

Indian Statistical Institute (Kolkata, WB, India), B.Stat. (Hons.), *First division with distinction*, 2017-2020.

Pre-prints and Publications

2. **S.Sengupta** and L.Janson. The ℓ-test: leveraging sparsity in the Gaussian linear model for improved inference. 2024.[`https://arxiv.org/abs/2406.18390`] *Submitted. (Dempster Award, 2024)*

1. **S.Sengupta** and S.Das. Selective nearest neighbors clustering. *Pattern Recognition Letters*, 155:178-185, 2022.

Awards and Honors

Arthur P. Dempster Award. Department of Statistics, Harvard University. 2024.
which "will support and recognize promising graduate students within the Department of Statistics, in particular those who have made significant contributions to theoretical or foundational research in statistics".

PCM Gold Medal. Indian Statistical Institute, Kolkata. 2022.
"on having been selected as the most outstanding student in M.Stat programme 2020-2022".

All India Rank 8 and Regional Rank 2 in KVS Junior Mathematics Olympiad. 2015.

Talks and Poster presentations

(Invited Talk) Leveraging sufficiency and sparsity for more powerful controlled variable selection in the linear model at STAT 300: Student research seminar, Department of Statistics, Harvard University. September 2025.

(Invited Talk) Leveraging sufficiency and sparsity for more powerful controlled variable selection in the linear model at the International Conference on Multiple Comparison Procedures, Philadelphia, Pennsylvania. August 2025.

(Contributed Talk) Leveraging sufficiency and sparsity for more powerful controlled variable selection in the linear model at the Joint Statistical Meetings, Nashville, Tennessee. August 2025.

(Contributed Poster) Low-rank weighting estimators for causal inference with interference at American Causal Inference Conference, Detroit, Michigan. May 2025.

(Invited Talk) Low-rank weighting estimators for causal inference with interference at STAT 300: Student research seminar, Department of Statistics, Harvard University. April 2025.

(Invited Poster) Leveraging Sparsity in the Gaussian Linear Model for Improved Inference at the Citadel Securities PhD Summit, Miami, Florida. April 2025.

(Contributed Talk) Leveraging Sparsity in the Gaussian Linear Model for Improved Inference at the Joint Statistical Meetings, Portland. August 2024.

(Contributed Talk) Leveraging Sparsity in the Gaussian Linear Model for Improved Inference at the 37^{th} New England Statistics Symposium. May 2024.

(Contributed Talk) Leveraging Sparsity in the Gaussian Linear Model for Improved Inference at the 3^{rd} New England Student Research Symposium on Statistics and Data Science. April 2024.

(Invited Talk) A tutorial on Causal Inference and its relevance in Astrophysics at 'Topics in Astro-statistics' seminar of the International CHASC Astro-Statistics Collaboration, Harvard University. April 2024.

(Invited Talk) Leveraging Sparsity in the Gaussian Linear Model for Improved Inference at STAT 300: Student research seminar, Department of Statistics, Harvard University. February 2024.

(Invited Talk) Distribution-free uncertainty quantification using Conformal Prediction. PCM Gold Medal Presentations, Indian Statistical Institute, Kolkata, India. 2022.

(Invited Talk) The framework of knockoffs for variable selection in regression. D.Basu Memorial Lectures, Indian Statistical Institute, Kolkata, India. 2021.

Other Experiences

Consultant. Harvard Statistical Consulting Service. Fall 2023 and Spring 2024.

Master's thesis. Indian Statistical Institute, Kolkata.
Dissertation: On testing the equality of distribution of k samples using classifiers.

Research Intern. Department of Statistics, Columbia University (Remote). Supervised by Bodhisattva Sen. 2021.
Project: Multivariate Mixture Estimation using Optimal Transport.

Research Intern. RC Bose Center for Cryptology and Security, Indian Statistical Institute, Kolkata. Supervised by Bimal K. Roy. 2019.
Project: A statistical study of the randomness in various pseudo-random number generators.

Teaching and Mentoring

STAT 213: Statistical Inference II. Teaching Fellow. Harvard University. Spring 2024.

STAT 230: Multivariate Statistical Analysis. Teaching Fellow. Harvard University. Fall 2023.

Undergraduate Supervision: Danielle Paulson. Harvard College. Spring 2024 to Spring 2025.