

WORK EXPERIENCE	University of Chicago Booth School of Business <i>Postdoctoral Fellow, under Prof. Bahar Taşkesen</i>	Chicago, USA September 2026–Present
	Department of Statistics, Purdue University <i>Visiting Assistant Professor</i>	West Lafayette, USA January 2026–July 2026
	Department of Industrial Engineering and Management Science, Northwestern University <i>IEMS Alumni Fellow</i>	Evanston, USA 2023–2025
EDUCATION	Department of Statistics, Purdue University <i>Ph.D. in Statistics</i>	West Lafayette, USA 2018–2023
	• Advisor: Prof. Vinayak Rao and Harsha Honnappa • Research area: Controlled Markov Chains and Reinforcement Learning (<i>thesis</i>)	
	Department of Statistics, Indian Statistical Institute <i>BSc, MSc in Statistics</i>	Kolkata, India 2013–2018
	• Advisor: Prof. Swagatam Das	
ONGOING / SUBMITTED PROJECTS	1. Bipayan Banerjee, Imon Banerjee, Swagatam Das. Central Limit Theorem for the Intrinsic Fréchet Means of Random Samples from Stiefel Manifolds. 2026+ 2. Imon Banerjee, Bahar Taşkesen. Variational Inference and Bayesian Sampling under Knothe–Rosenblatt Dependence. 2026+ 3. Imon Banerjee, Pierre Alquier. Empirical PAC-Bayesian Bounds and Posterior Concentration for Regenerative Processes. 2026 4. Jiaqi Lei, Imon Banerjee, Sanjay Mehrotra. Mixed-Integer Optimization for Nonparametric Changepoint Detection with Epidemic Regimes. 2026 5. Imon Banerjee, Riddhiman Bhattacharyya. Low Dimensional Sampling under Reconstructed Constraints. (<i>preprint</i>) 2026 • Under review at the NeurIPS MLxOR Workshop for the MathOR journal track. 6. Tejasvi Kasturi, Keith Alan Salzman, Balaji Anandganesh, David Huynh, Imon Banerjee, Supratik Mukhopadhyay. NKOOD: Nonparametric Kernel-Attention Out-of-Distribution Detection with Finite-Sample Guarantees. (<i>preprint</i>) 2026 7. Ziwei Su, Imon Banerjee, Diego Klabjan. Central Limit Theorem for the Transition Matrices of Controlled Markov Chains. <i>Under review. (preprint)</i> 2026 8. Imon Banerjee, Itai Gurvich. Goggin’s corrected Kalman Filter: Guarantees and Filtering Regimes. <i>Second revision at IEEE Transactions on Information Theory. (preprint)</i> 2026 9. Imon Banerjee, Harsha Honnappa, Vinayak Rao. Adaptive Estimation of the Transition Densities of Controlled Markov Chains. (<i>preprint</i>) 2026	

PUBLISHED /
ACCEPTED
PAPERS

1. Ziwei Su, **Imon Banerjee**, Diego Klabjan. Model-Based Bootstrap of Controlled Markov Chains. *Accepted at NeurIPS. (preprint)* 2026
2. **Imon Banerjee**, Sayak Chakrabarty, Ramkrishna Samanta, Riddhiman Bhattacharyya. The Type Theory of Stationary MDPs: Rare Events and Uncertainty Quantification. *Accepted at NeurIPS. (preprint on request)* 2026
3. Riddhiman Bhattacharyya, Sayak Chakrabarty, **Imon Banerjee**. Adaptive Model Selection in Offline Contextual MDPs without Stationarity. *Transactions of Machine Learning Research* (link). 2026
4. **Imon Banerjee**, Jean Honorio. Meta Sparse Principal Component Analysis. *AISTATS* (link). 2026
5. **Imon Banerjee**, Jiaqi Lei, Sanjay Mehrotra. Nonparametric Multi Change Point Detection for Markov Chains via Adaptive Clustering. *AISTATS* (link). 2026
6. **Imon Banerjee**, Sayak Chakrabarty. CLT and Edgeworth Expansion for m-out-of-n Bootstrap Estimators of the Studentized Median. *NeurIPS* (link). 2025
7. **Imon Banerjee**, Harsha Honnappa, Vinayak Rao. Offline Estimation of Controlled Markov Chains: Maximality and Sample Complexity. *Operations Research* (link). 2025
8. **Imon Banerjee**, Vinayak Rao, Harsha Honnappa. PAC-Bayes Bounds on Variational Tempered Posteriors for Markov Models. *Entropy* (link). 2021
9. **Imon Banerjee**, Sankha Subhra Mullick, Swagatam Das. On Convergence of the Class Membership Estimator in Fuzzy k-Nearest Neighbor Classifier. *IEEE Transactions on Fuzzy Systems* (link). 2019

TEACHING

Teaching Summary

<i>Undergraduate sections instructed</i>	16	<i>Graduate sections instructed</i>	5
<i>Courses designed</i>	1	<i>Number of Sections as TA</i>	4

Northwestern University | Instructor

- IEMS 394: Industrial Engineering Client Project Challenge Spring 2024
- IEMS 395/490: Applied Statistical Inference and Decision Making in Finance and Healthcare (*Designed*) Spring 2024
- IEMS 404: Predictive Analysis-I Fall 2024

Purdue University | Instructor

- STAT 301: Introduction to Statistical Methodologies Spring 2026
- STAT 503: Statistical Methods in Biology Summer 2021
- STAT 225: Introduction to Probability Spring 2019–Spring 2021

Purdue University | Teaching Assistant

- STAT 503: Statistical Methods in Biology Fall 2021–Spring 2022
- STAT 512: Applied Regression Analysis Fall 2018
- STAT 301: Elementary Statistical Methods Fall 2018

MENTORING

Past student: Jiaqi Lei, Ph.D., jointly advised with Sanjay Mehrotra. First position: Lenovo.
Ziwei Su, Ph.D., jointly advised with Diego Klabjan. First position: Amazon.
Kayla Terrelonge, B.Sc. First position: PNC.
Yanis Zaim, B.Sc. First position: M.Sc. at Columbia.

GRANT

PI: Sanjay Mehrotra; Co-PIs: Imon Banerjee and Sayar Karmakar. Constrained Non-parametric Change-Point Detection Methods in Markov Chains. *Tentative Submission at NSF-DMS (Statistics)* 2026

OTHER EXPERIENCE	Argonne National Lab Lemont, USA	2022.05–2022.08
	• Develop a surrogate model to predict optimal placement of sensors to predict the origin of a contamination in a diffusion.	
	Transunion Bombay, India	2017.05–2017.08
	• Predicting Probability of 90-Days Past Due For 2 and 3 Years of Loan Tenure	
AWARDS	• IEMS Alumni Fellowship	2023
	• Ross-Lynn Research Fellowship	2022
	• Inspire Fellowship	2013
ACADEMIC SERVICES	Academic reviewing: <i>Entropy, AISTATS, ICLR, ICML (Top Reviewer: 2022), NeurIPS, Stochastic Systems, Operations Research Letter, Sequential Analysis</i>	
	Graduate Senator, Department of Statistics	2022–2023
	Networking Committee, National Institute of Statistical Sciences Graduate Student Network	2020–2021
	Safety Committee, Department of Statistics	2019–2020
TALKS	INFORMS Annual Conference (Invited: 2026, 2025, 2022; Contributed: 2023); Applied Probability Society (Invited: 2025); ECOSTA (Invited: 2026); ISMP (Invited: 2024); Northwestern University (Invited: 2024); Indian Statistical Institute (Invited: 2026, 2023); IISA (Contributed: 2022, 2020); Joint Statistical Meetings (Contributed: 2024); NISS Graduate Student Conference (Contributed: 2020).	
REFERENCES	• Vinayak Rao MATH 212 150 N University St, Purdue University West Lafayette, IN 47907 Phone: 765-494-3956 Fax: 765-494-0058 varao@purdue.edu	
	• Harsha Honnappa Grissom Hall, Room 266 315 N. Grant Street West Lafayette, IN 47907 Tel.: 765-49-60403 Fax: 765-49-47693 honnappa@purdue.edu	
	• Simge Kucukyavuz Chair of Industrial Engineering and Management Sciences 2145 Sheridan Road, Room C216 Evanston, IL 60208-3109 simge@northwestern.edu	
	• Itai Gurvich Kellogg School of Management Office: Global Hub 4141 i-gurvich@kellogg.northwestern.edu	