

Arun Kumar Kuchibhotla

CONTACT INFORMATION

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RESEARCH INTERESTS

Post-selection Inference, Large Sample Theory, Robust Statistics, Non/semi-parametric Statistics, Concentration Inequalities.

EDUCATION

Fifth Year Graduate Student, (Advisors: Lawrence D. Brown, Andreas Buja)
The Wharton School,
University of Pennsylvania, Philadelphia, USA.

Indian Statistical Institute, Kolkata.

M. Stat. (Hons),

- Specialization: *Mathematical Statistics and Probability*.
- Completed in: 2015.
- First class with Distinction. Scored 88%.

B. Stat. (Hons),

- Major Subject: *Statistics*
- Completed in: 2013.
- First class with Distinction. Scored 80.5%.

JOURNAL PUBLICATIONS

1. **Kuchibhotla A. K.** and Basu A. (2015) “A General Set Up for Minimum Disparity Estimation.” *Statistics and Probability Letters*, Vol. 96, 68-74, 2015.
2. **Kuchibhotla A. K.** and Basu A. (2017) “On The Asymptotics of Minimum Disparity Estimation.” *TEST: An Official Journal of the Spanish Society of Statistics and Operations Research*, 22.
3. **Kuchibhotla A. K.**, Mukherjee S. and Basu A. (2017) “Statistical inference based on bridge divergences.” *Annals of the Institute of Statistical Mathematics*, 71 (3), 627-656.
4. Berk R., Buja A., Brown L. D., George E. I., **Kuchibhotla A. K.**, Su W. J., Zhao L. H., (2018) “Assumption Lean Regression” *The American Statistician*, To appear.
5. Buja A., Brown L. D., **Kuchibhotla A. K.**, Berk R., George E. I., Zhao L. H. (2019) “Models as Approximations — Part II: A General Theory of Model-Robust Regression” [arXiv:1612.03257](https://arxiv.org/abs/1612.03257). *Statistical Science*, To appear (with discussion).
6. Bellec P., and **Kuchibhotla A. K.**, (2019) “First order expansion of convex regularized estimators” *Advances in Neural Information Processing Systems 33*, To appear.
7. **Kuchibhotla A. K.**, Brown L. D., Buja A., Cai, J., George E.I., Zhao L.H. (2019) “Valid Post-selection Inference in Model-free Linear Regression.” [arXiv:1806.04119](https://arxiv.org/abs/1806.04119). Accepted at *Annals of Statistics*.

PREPRINTS

1. **Kuchibhotla A. K.** and Patra R. K. (2016) “Efficient Estimation in Single Index Models through Smoothing splines” [arXiv:1612.00068](#). Revision submitted to Bernoulli.
2. **Kuchibhotla A. K.**, Patra R. K., Sen B. (2017) “Least Squares Estimation in a Single Index Model with Convex Lipschitz link” [arXiv:1708.00145](#). Submitted to JASA.
3. **Kuchibhotla A. K.**, Brown L. D., Buja A., George E.I., Zhao L.H. (2018) “A Model Free Perspective for Linear Regression: Uniform-in-model Bounds for Post Selection Inference.” [arXiv:1802.05801](#). Submitted to Econometric Theory. Invited paper for Festschrift on the occasion of Benedikt Poetschers 65th birthday.
4. **Kuchibhotla A. K.**, Chakraborty A. (2018) “Moving Beyond Sub-Gaussianity in High-Dimensional Statistics: Applications in Covariance Estimation and Linear Regression.” *arXiv preprint arXiv:1804.02605*.
5. Chakraborty A. and **Kuchibhotla A. K.** (2018) “Tail Bounds for Canonical U-Statistics and U-Processes with Unbounded Kernels.”
6. **Kuchibhotla A. K.**, Brown L. D., Buja A. (2018) “Model-free Study of Ordinary Least Squares Linear Regression.” [arxiv:1809.10538](#).
7. Banerjee D., **Kuchibhotla A. K.**, Mukherjee S. (2019) “High-dimensional CLT: Improvements, Non-uniform Extensions and Large Deviations” [arXiv:1806.06153](#). Revision submitted to Bernoulli.
8. **Kuchibhotla A. K.** (2018) “Deterministic Inequalities for Smooth M-estimators.” [arxiv:1809.05172](#).
9. **Kuchibhotla A. K.** and Patra R. K. (2019) “On Least Squares Estimation under Heteroscedastic and Heavy-Tailed Errors.” [arXiv:1909.02088](#).

TEACHING

- STAT991 – Topics in Linear Models (Fall 2017)
— Taught half a course jointly with Lawrence D. Brown. Part of creating the course structure and lecture notes.
- STAT111 – Introductory Statistics (Summer 2018)
— Created syllabus, course material and lectured five times a week to a class of 25 undergraduate students from various disciplines and backgrounds.

PRESENTATIONS

- Invited talk at [MCP 2019](#), National Taiwan University.
- Invited talk at [WHOA-PSI-4](#), 2019.
- Invited talk at [JSM 2019](#), Denver.
- Invited talk at [ICSA 2019](#), Nankai University.
- Invited talk at young researchers session, [Lawrence D Brown memorial workshop](#).
- Shared a talk with Andreas Buja at [WHOA-PSI-3](#), 2018.
- Invited talk at “[Workshop Model Selection, Regularization, and Inference](#)” 2018 (Represented Larry Brown).
- Shared a talk with Andreas Buja at [SLDSC 2018](#).
- Invited talk at [WHOA-PSI-2](#), 2017 (Represented Larry Brown).
- Special topics session at [World Statistics Congress 2015](#), Rio de Janeiro, Brazil.
- Contributed session presentation at [ICORS 2015](#), Kolkata, India.
- Contributed session presentation at [ICORS 2014](#), Halle, Germany.
- Two seminars in Theoretical Statistics and Mathematics Unit, ISI, Kolkata on August 7 and 13, 2012 based on my project under Dr. Patankar.
- A department seminar in ISI, Chennai on July 3, 2013.

ACADEMIC
ACHIEVEMENTS

- Student travel award, Wharton Doctoral Programs, George James Term Fund 2019.
- Got second prize in [Jan Tinbergen](#) competition for young statisticians from developing countries.
- Awarded [Kishore Vaigyanik Protsahan Yojana](#) scholarship since April 2011.
- Inspire Scholar since April 2011. (From Department of Science and Technology, India)

PROGRAMMING
AND SCRIPTING

- C – Basic Programming,
- R – Proficient,
- \LaTeX – Proficient.