

Arun Kumar Kuchibhotla

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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.

- PREPRINTS
1. **Kuchibhotla A. K.** and Parta R. K. (2016) “Efficient Estimation in Single Index Models through Smoothing splines” [arXiv:1612.00068](https://arxiv.org/abs/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](https://arxiv.org/abs/1708.00145). Submitted to JASA.

3. **Kuchibhotla A. K.**, Brown L. D., Buja A., George E.I., Zhao L.H. (2017) “Valid Post-selection Inference in Assumption-lean Linear Regression.” [arXiv:1806.04119](#). Revision submitted to Annals of Statistics.
4. **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.
5. **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*.
6. Chakraborty A. and **Kuchibhotla A. K.** (2018) “Tail Bounds for Canonical U-Statistics and U-Processes with Unbounded Kernels.”
7. **Kuchibhotla A. K.**, Brown L. D., Buja A. (2018) “Model-free Study of Ordinary Least Squares Linear Regression.” [arxiv:1809.10538](#).
8. 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.
9. **Kuchibhotla A. K.** (2018) “Deterministic Inequalities for Smooth M-estimators.” [arxiv:1809.05172](#).
10. **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.
<https://2019mcp.smartevent.com.tw/>
- Invited talk at WHOA-PSI-4, 2019.
<https://www.math.wustl.edu/~kuffner/WHOA-PSI-4.html>
- Invited talk at JSM 2019, Denver.
<https://ww2.amstat.org/meetings/jsm/2019/onlineprogram/AbstractDetails.cfm?abstract>
- Invited talk at ICSA 2019, Nankai University.
- Shared a talk with Andreas Buja at WHOA-PSI-3, 2018.
<https://www.math.wustl.edu/~kuffner/WHOA-PSI-3.html>
- Invited talk at “Workshop Model Selection, Regularization, and Inference” 2018 (Represented Larry Brown).
<https://www.univie.ac.at/seam/inference2018/>
- Shared a talk with Andreas Buja at SLDSC 2018.
<https://publish.illinois.edu/sldsc2018/>
- Invited talk at WHOA-PSI-2, 2017 (Represented Larry Brown).
<https://www.math.wustl.edu/~kuffner/WHOA-PSI-2.html>
- Contributed session presentation at the International Conference on Robust Statistics (ICORS) 2015, Kolkata, India.
- Contributed session presentation at the International Conference on Robust Statistics (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 seminar in ISI, Chennai on July 3, 2013 based on my project Estimating Optimal Transformations for Regression.

ACADEMIC ACHIEVEMENTS

- Got second prize in [Jan Tinbergen](https://isi-web.org/index.php/activities/awards/isi-awards/tinbergen-award) competition for young statisticians from developing countries.
<https://isi-web.org/index.php/activities/awards/isi-awards/tinbergen-award>
- Awarded Kishore Vaigyanik Protsahan Yojana scholarship since April 2011. (From Indian Institute of Science)
- Inspire Scholar since April 2011. (From Department of Science and Technology, India)

PROGRAMMING AND SCRIPTING

- C – Basic Programming,
- R – Proficient,
- Sage – Basic Programming,
- \LaTeX 2_ε – Proficient