

Hang Deng

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CONTACT

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RESEARCH INTERESTS

High-dimensional Statistics, Central Limit Theorem, Shape Constrained Regression, Nonparametrics, Bootstrap methods, Statistical Machine Learning, and Neural Network Overparameterization

EDUCATION

Rutgers University, New Brunswick, NJ
Ph.D. candidate, Statistics
Advisor: Prof. Cun-Hui Zhang
Expected to graduate in May 2021

Rutgers University, New Brunswick, NJ
M.Sc. Statistics, Jan. 2017

Fudan University, Shanghai, China
B.Sc. Mathematics and Applied Mathematics, June 2015

PAPERS & TECHNICAL REPORTS

- **Deng, Hang**. “Slightly conservative bootstrap for maxima of sums”. Submitted. Available at *arXiv:2007.15877* (2020).
- **Deng, Hang**, Qiyang Han, and Bodhisattva Sen. “Inference for local parameters in convexity constrained models.” Submitted. Available at *arXiv:2006.10264* (2020).
- **Deng, Hang**, Qiyang Han, and Cun-Hui Zhang. “Confidence intervals for multiple isotonic regression and other monotone models”. Submitted to ***Annals of Statistics***, revision invited and submitted. Available at *arXiv:2001.07064* (2020).
- **Deng, Hang**, and Cun-Hui Zhang. “Isotonic regression in multi-dimensional spaces and graphs”. Accepted by ***Annals of Statistics***, to appear. Available at *arXiv:1812.08944* (2018).
- **Deng, Hang**, and Cun-Hui Zhang. “Beyond Gaussian approximation: Bootstrap for maxima of sums of independent random vectors.” Accepted by ***Annals of Statistics***, to appear. Available at *arXiv:1705.09528* (2017).
- Abdulla, G. M., **H. Deng**, B. Soper, J. Nagrad, and M. Nygard. “Filling the gaps: using a static data source to create a rich temporal dataset”. No. LLNL-CONF-752118. Lawrence Livermore National Lab.(LLNL), Livermore, CA, (2018).
Technical report at *Second ISC HPC Applications in Precision Medicine Workshop, 2018*

RESEARCH EXPERIENCES

Lawrence Livermore National Laboratory, CA *07/2017 - 09/2017*
NSF Graduate Intern at Institute for Scientific Computing Research
- Supported by **NSF-Mathematical Sciences Graduate Internship Program**.
- Collaborated with the Cancer Registry of Norway to construct a personalized cervical cancer screening policy for women in Norway.
- Proposed a deep learning framework which builds a long short-term memory (LSTM) neural network for each woman using her survey and screening test data and trains all neural nets with transfer learning.
- See my story on [SIAM News](#) or the [NSF-Mathematical Sciences Graduate Internship Program](#) website.

HONORS & AWARDS	<ul style="list-style-type: none"> • Oberwolfach Leibniz Graduate Student, Mathematical Research Institute of Oberwolfach, Germany, 2018 • Best Ph.D Qualifying Exam Performance, Department of Statistics, Rutgers University, 2016. <i>Awarded for the highest score in qualifying exam.</i> • Conference Travel Award, Rutgers University, 2018 • TA/GA Professional Development Fund Award, Rutgers University, 2017-2018 • Outstanding Graduate of Fudan University, Fudan University, 2015. • Scholarship for Outstanding Students at Fudan University, Fudan University, 2012-2014.
SELECTED TALKS	<ul style="list-style-type: none"> • Contributed Talk. JSM, online, “Confidence Intervals for Multiple Isotonic Regression and Other Monotone Models”, <i>August 2020</i> • Invited Talk. JSM, Denver, CO, “Isotonic Regression in Multi-Dimensional Spaces and Graphs”, <i>July 2019</i> • Invited Talk. International Workshop on Perspectives on High dimensional Data Analysis, Uppsala, Sweden. “Beyond Gaussian Approximation: Bootstrap for Maxima of Sums of Independent Random Vectors”, <i>June 2019</i> • PhD Student Talk. Statistical Inference for Structured High-dimensional Models Workshop, MFO, Germany, “Beyond Gaussian Approximation: Bootstrap for Maxima of Sums of Independent Random Vectors”, <i>March 2018</i> • Seminar Talk. Lawrence Livermore National Lab, Livermore, CA, “Feature Extraction from Patients Surveys to Facilitate Learning from Cervical Screening Data”, <i>Sept. 2017</i>
TEACHING	<p>Rutgers University, New Brunswick, NJ</p> <p><i>Instructor</i></p> <ul style="list-style-type: none"> - STAT 695: Linear Algebra and Multivariable Calculus Review (Fall 2020) <p><i>Teaching Assistant</i></p> <ul style="list-style-type: none"> - STAT 486: Computing and Graphics in Applied Statistics (Spring 2020) - STAT 285: Introductory Statistics for Business (Fall 2019) - FSRM 591: Algorithm Trading & Portfolio Management (Fall 2018) - STAT 590: Design of Experiments (Fall 2018) - STAT 401: Basic Statistics for Research (Fall 2016, Spring 2017) - STAT 211: Statistics I (Fall 2016, Spring 2017).
ACADEMIC SERVICES	Reviewer for <i>Annals of Statistics</i> , <i>Probability Theory and Related Fields</i> , <i>Statistical Sciences</i> and <i>Biometrics</i> .
SKILLS	R, C++, Matlab, Python, Matlab, L ^A T _E X, SQL
REFERENCES	<p>Cun-Hui Zhang Distinguished Professor Department of Statistics, Rutgers University Piscataway, NJ, USA Email: czhang@stat.rutgers.edu</p>

Bodhisattva Sen
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Department of Statistics, Columbia University
New York, NY, USA
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Kengo Kato
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Qiyang Han
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Ghaleb M. Abdulla
Senior Data Scientist
Center for Applied Scientific Computing, Computation Directorate
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