Sudeep Salgia

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Education

PhD Electrical and Computer Engineering, Cornell University, Ithaca, NY, USA (2018-Present)
- Advisor: Prof. Qing Zhao
- Jacobs Scholar Fellow • CGPA: 4.18/4.0

Bachelor of Technology (Hons.), Indian Institute of Technology Bombay, India (2014-2018)
- Major in Electrical Engineering and Minor in Computer Science • CGPA: 9.74/10

Research Interests

I am passionate about math-intensive problems that contribute to a better understanding of learning theory. I like to work on theoretical aspects of Machine Learning, broadly around the fields of Statistical Learning, Optimization and Active Learning in online setups.

Peer-Reviewed Publications

- Stochastic Coordinate Minimization with Progressive Precision for Stochastic Convex Optimization [Paper]
  Sudeep Salgia, Qing Zhao, Sattar Vakili
  ICML 2020
- Stochastic Gradient Descent on a Tree: an Adaptive and Robust Approach to Stochastic Convex Optimization [Paper]
  Sattar Vakili, **Sudeep Salgia**, Qing Zhao
  Allerton 2019
- On Bandlimited Spatiotemporal Field Sampling with Location and Time Unaware Mobile Sensors [Paper]
  Sudeep Salgia, Animesh Kumar
  ICASSP 2018

Scholastic Achievements and Awards

- Awarded Jacobs Scholar Fellowship at Cornell University (2018)
- Silver Medallist in the Class of 2018 IIT Bombay (2018)
- Secured All India Rank 214 in JEE Advanced 2014 among 150,000 selected candidates. (2014)
- Selected for the final round of Honda YES Scholarship. Amongst top 20 students in India (2017)
- Best Application Award for our project on Sign Language to Text Converter at the Tech & RnD Expo (2015)

Internship and Notable Projects

- **Sampling and Estimation of Bandlimited fields** (2017-18)
  UG thesis with Prof. Animesh Kumar, IIT Bombay
  Guarantees on reconstruction error of spatiotemporal fields with samples from unknown locations
- **Automated Methods for MS Lesion Segmentation** (May'17 - Jul'17)
  Research Intern with Prof. Yi Wang, Weill Cornell Medicine
  Developed new methods for lesion segmentation on T2 images using analytical methods
- **Algorithms for Information Restoration in Images** (May'16 - Nov'16)
  Research Project with Prof. Suyash Awate, IIT Bombay
  Novel image inpainting algorithm that uses global information to restore images while ensuring smoothness

Responsibilities

- Teaching Assistant: Linear Algebra, Electromagnetism at IIT Bombay (Spring 2018, 2016)
- Member of Graduate team of International Students Union at Cornell University (2018-2019)
- Department Academic Mentor at IIT Bombay (2017-2018)
- Volunteer, Abhyasika (an initiative that runs tutorials for underprivileged children) (2017-2018)
- Manager, Technical Projects at IIT Bombay (2016-2017)

Skills and Coursework

- **Math**: Measure Theory, Probability, Linear Algebra, Statistical Learning Theory, Convex Optimization
- **EE**: Optimal Control, Stochastic Systems : Estimation and Control, Information Theory, Signal Processing
- **Programming Languages**: MATLAB, Python

Co-Curricular Activities

- Secured sixth position in a global Creative Writing competition in Mood Indigo, cultural fest of IITB (2014)
- Amongst top active contributors at Math StackExchange (top 9%), previously a moderator at Brilliant.org
- Hobbies: Painting, sketching, Badminton, Cricket