Muni Sreenivas Pydi

CONTACT INFORMATION

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RESEARCH INTERESTS

Adversarial Robustness in Machine Learning, Optimal Transport, Learning Theory, Graphs

EDUCATION

University of Wisconsin-Madison, Madison, WI, USA
PhD, Electrical Engineering 2019 - Present
Advisor: Prof. Varun Jog (Currently at the University of Cambridge)

Master of Science, Electrical Engineering 2017 - 2019
Advisors: Prof. Varun Jog and Prof. Po-Ling Loh

Indian Institute of Technology (IIT) Madras, Chennai, India
Bachelor of Technology (Honours), Electrical Engineering 2010 - 2014

PUBLICATIONS

1. **Adversarial Hypothesis Testing via Unbalanced Optimal Transport**
Muni Sreenivas Pydi and Varun Jog
Manuscript, 2020.
2. **Adversarial Risk via Optimal Transport and Optimal Couplings**
Muni Sreenivas Pydi and Varun Jog
International Conference on Machine Learning (ICML) 2020.
(Full paper under review at IEEE Transactions on Information Theory)
3. **Active Learning with Importance Sampling**
Muni Sreenivas Pydi and Vishnu Lokhande
NeurIPS Workshop on ML with Guarantees, 2019.
4. **Graph-Based Ascent Algorithms for Function Maximization**
Muni Sreenivas Pydi, *Varun Jog and Po-Ling Loh*
Allerton Conference on Communication, Control and Computing, 2018.
5. **On Consistency of Compressive Spectral Clustering**
Muni Sreenivas Pydi, *and Ambedkar Dukkipati*
IEEE International Symposium on Information Theory (ISIT), 2018.
6. **Random access retransmission scheme for power limited nodes**
Karthik Nagasubramanian, and **Muni Sreenivas Pydi**
IEEE National Conference on Communications (NCC) India, 2017.
7. **Analytic Connectivity of General Hypergraphs**
Ashwin Guha, **Muni Sreenivas Pydi**, *Biswajit Paria and Ambedkar Dukkipati*
arXiv preprint arXiv:1701.04548, 2017.

EXPERIENCE

University of Wisconsin-Madison, Madison, WI, USA
Teaching Assistant (Departments of ECE, CS and Mathematics) Aug 2017 - May 2019

- Head TA for CS 761: Mathematical Foundations of Machine Learning - grad-level class, size 100, taught by Prof. Rob Nowak. Held review sessions, graded homeworks & quizzes
- TA for CS 532: Matrix Methods for Machine Learning - grad-level class, size 50, taught by Prof. Po-Ling Loh. Ran hands-on deep learning lectures, held review sessions

Indian Institute of Science (IISc), Bengaluru, India
Research Assistant (Statistics and Machine Learning Lab) Aug 2016 - Jul 2017

- Published a paper on spectral clustering at IEEE Int'l Symposium on Information Theory

- Developed deep learning models for classifying underwater sonar signals for a joint project with the Defence Research and Development Organisation (DRDO), India.

Samsung R&D Institute, Bengaluru, India
Senior Software Engineer (4G/LTE protocol stack development) Aug 2014 - Jul 2016

- Published a paper on wireless protocols at IEEE Nat'l Conference on Communications, India.
- Developed protocol stack for the largest 4G/LTE deployment project in India

Deutsche Bank, Mumbai, India
Summer Intern (Statistical Modeling) May 2013 - Jul 2013

- Developed time series models to predict longevity rates for pricing insurance products

Indian Space Research Organization, Sriharikota, India
Summer Intern (Digital System Design) Jun 2012 - Jul 2012

Technical Skills

Programming: Python, MATLAB, C, Java, R
Machine Learning: PyTorch, Keras, scikit-learn

Graduate Coursework

Machine Learning (ML)/CS	**Statistics/Math/Control**
Theoretical ML	Robust Statistics
Foundations of ML	Information Theory
Advanced Learning Theory	Topics in Probability, Theory of Probability
Large Scale ML & Optimization	Linear Systems, Nonlinear systems
Optimal Transport for ML	Real Analysis, Analysis I-II
Advanced Algorithms	Optimiztion in Statistical Settings

Service, Honours and Achievements

Reviewer for IEEE International Symposium on Information Theory (ISIT), 2019-2020

IEEE International Symposium on Information Theory (ISIT) Student Travel Award, 2018.

Conferral of the Honours degree in EE, IIT Madras, 2014.

CBSE Merit Scholarship, Central Board of Secondary Education (CBSE) India, 2010-2014.

Ranked All India 243 out of 470,000 candidates in IIT Joint Entrance Exam, 2010.

Ranked All India 70 out of a million candidates in All India Engineering Entrance Exam, 2010.