



SIRISHA RAMBHATLA

PH.D. STUDENT, ELECTRICAL ENGINEERING
UNIVERSITY OF MINNESOTA –TWIN CITIES

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INTERESTS & EXPERTISE

■ Machine learning ■ Optimization ■ Statistical Signal Processing ■ Probability and Statistics ■ Algorithms
■ Tensor Analysis ■ Natural Language Processing ■ Deep Learning ■ Topic Modeling ■ Text Mining

Experience

RESEARCH ASSISTANT, UNIVERSITY OF MINNESOTA,
MINNEAPOLIS, MN 2011-12, 2014-PRESENT

Develop and analyze provable algorithms for statistical signal processing, optimization and machine learning tasks.

SCIENCE ADVISOR, ROBINS KAPLAN LLP,
MINNEAPOLIS, MN – 2013-14

Strategize for various technical issues involved in technology licensing and intellectual property litigation.

ENGINEERING INTERN (R&D), ATIVA MEDICAL,
ST. PAUL, MN – SUMMER 2011, 2012

Develop signal and image processing algorithms for analysis of flow-cytometric time series data with applications to medical diagnostics.

Education

PH.D. IN ELECTRICAL ENGINEERING, 3.8
UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MN, 2014–PRESENT
ADVISOR: PROF. JARVIS HAUPT

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING, 3.7
UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MN, 2010–2012

BACHELOR OF TECHNOLOGY IN ELECTRONICS & TELECOMM. ENG., 81%
COLLEGE OF ENGINEERING ROORKEE (COER), ROORKEE, INDIA, 2006-10

Selected Awards & Honors

FINALIST, STUDENT BEST PAPER AWARD, ASILOMAR CONFERENCE ON SIGNAL SYSTEMS AND COMPUTING, '17.
NATIONAL SCIENCE FOUNDATION (NSF) TRAVEL AWARD, GLOBALSIP '16
E. BRUCE LEE MEMORIAL FELLOWSHIP, UNIVERSITY OF MINNESOTA '14.
SCITECHSPERIENCE FELLOW, MINNESOTA HIGH TECH ASSOCIATION '12.
PLACED THIRD IN THE UNIVERSITY, CLASS OF 2010 (COER)
AWARD FOR ACADEMIC EXCELLENCE, YEAR '07 AND '10 (COER)

Skills

PROGRAMMING LANGUAGES

■ MATLAB (Expert) ■ Python (Advanced)
■ C (Intermediate) ■ C++ (Intermediate)

Selected Research Projects

GENERALIZED ROBUST PCA

- Analyze a demixing task via a dictionary based generalization of robust PCA.
- Develop and investigate applications in target localization for a classification task in hyper-spectral images. [1-3]

ONLINE DICTIONARY LEARNING AND SPARSE APPROXIMATIONS

- Develop and analyze an alternating minimization based algorithm for a semi-supervised learning task.
- Applications in audio, image and vision.

Selected Publications

- [1] S. Rambhatla, X. Li, and J. Haupt. "A dictionary based generalization of robust PCA". In *2016 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 1315–1319, Dec 2016.
- [2] S. Rambhatla, X. Li, and J. Haupt. "Target-based hyper-spectral demixing via generalized robust PCA". In *Asilomar Conference on Signals Systems and Computers*, 2017.
- [3] X. Li, J. Ren, S. Rambhatla, Y. Xu, and J. Haupt. "Robust PCA via dictionary based outlier pursuit". In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2018.