



# SIRISHA RAMBHATLA

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

□ 325 8th Ave SE, Apt 306, Minneapolis, MN 55414  
□ +1 215-873-4767  
□ rambh002@umn.edu  
□ sirisharambhatla.com  
□ linkedin.com/in/sirisharambhatla/

## EXPERTISE & RESEARCH INTERESTS

■ 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.