

# Gauri Jagatap

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## EDUCATION

AUG 2016 -Present	Doctor of Philosophy (PhD) in ELECTRICAL ENGINEERING <b>Iowa State University</b> (GPA: 3.88/4)
AUG 2010	Bachelor of Engineering (Hons.) in ELECTRICAL AND ELECTRONICS ENGINEERING
-MAY 2015	Master of Science (Hons.) in PHYSICS <b>BITS Pilani University</b> , India (GPA: 8.69/10)

## PROGRAMMING LANGUAGES AND FRAMEWORKS

MATLAB, Python, C, TensorFlow

## RESEARCH INTERESTS

Machine Learning, Statistical Learning, Learning Theory, Algorithms, Signal Processing, Optimization

## RESEARCH

AUG 2016 -Present	PhD student at <b>Iowa State University</b> Advisor: Dr. Chinmay Hegde Phase retrieval using structured sparsity: utilizing underlying structure (such as block and tree sparsities) in signal data to develop fast and sample efficient algorithms for solving absolute-valued inverse problems. Formulated and analyzed bounds on the number of sample points required for invertibility. Analyzed convergence criterion and running time of the algorithm. Applications to sub-diffractive super-resolution imaging.
MAY 2018	Research Intern at <b>Mitsubishi Electric Research Labs</b> , Cambridge, Massachusetts.
-AUG 2018	Advisor: Dr. Petros Boufounos
JUL 2015	Project Assistant at <b>Indian Institute of Science</b> , Bengaluru, India
-JUL 2016	Advisor: Dr. Chandra Sekhar Seelamantula Axial super-resolution of ultrasound images using compressed sensing.
AUG 2015	Low rank and sparse decomposition of compressively sensed video via Alternating Directions Method of Multipliers (ADMM).

## JOURNAL ARTICLES

Nov 2017	<b>G. Jagatap</b> and C. Hegde, "Sample-efficient algorithms for recovering structured signals from magnitude-only measurements", <i>under review</i> , <b>IEEE Transactions on Information Theory</b> . ( <a href="#">Paper</a> ).
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## CONFERENCE PROCEEDINGS

OCT 2018	<b>G. Jagatap</b> , Z. Chen, C. Hegde and N. Vaswani, "Model corrected low rank ptychography", <i>to appear</i> , Proc. of IEEE International Conference on Image Processing (ICIP), 2018. ( <a href="#">Paper</a> ).
JUN 2018	<b>G. Jagatap</b> and C. Hegde, "Towards sample-optimal methods for solving random quadratic equations with structure", <i>to appear</i> , Proc. of IEEE International Symposium on Information Theory (ISIT), 2018. ( <a href="#">Paper</a> ).
APR 2018	<b>G. Jagatap</b> , Z. Chen, C. Hegde and N. Vaswani, "Sub-diffraction imaging using Fourier ptychography and structured sparsity", <i>to appear</i> , Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2018 (Oral presentation). ( <a href="#">Paper</a> ).
APR 2018	Z. Chen, <b>G. Jagatap</b> , S. Nayer, C. Hegde and N. Vaswani, "Low rank Fourier ptychography", <i>to appear</i> , Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2018. ( <a href="#">Paper</a> ).
DEC 2017	<b>G. Jagatap</b> and C. Hegde, "Fast, sample-efficient algorithms for structured phase retrieval", Adv. in Neural Information Processing Systems (NIPS), pp. 4922-4932, 2017. (Acceptance rate: 20.93%). ( <a href="#">Paper</a> ).

## ARTICLES

Under review

MAY 2018	<b>G. Jagatap</b> and C. Hegde, "Learning ReLU Networks via Alternating Minimization", 2018. ( <a href="#">Paper</a> ).
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## WORKSHOPS AND SYMPOSIA

JUN 2017	<b>G. Jagatap</b> and C. Hegde, "Fast and sample-efficient algorithms for structured phase retrieval", <b>Midwest Machine Learning Symposium (MMLS) 2017</b> .
DEC 2017	<b>G. Jagatap</b> and C. Hegde, "Phase retrieval using structured sparsity: A sample efficient algorithmic framework", <b>Women in Machine Learning (WiML) 2017 Workshop</b> .

## GRADUATE COURSES

**Iowa State University**

Data Analytics for ECPe, Deep Machine Learning, Statistical Machine Learning, Convex Optimization, Nonlinear Programming, Detection and Estimation Theory, Theory of Probability and Statistics, Applied Linear Algebra

## GRADUATE COURSE PROJECTS

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MAY 2017	Sparse PCA using truncated and inverse power methods for topic extraction from textual database, EE 525, <b>Iowa State University</b>
MAY 2017	Non-negative matrix factorization using orthogonal gradient method and successive projection method for topic extraction from textual database, IE 631, <b>Iowa State University</b>

## SCHOLARSHIPS AND AWARDS

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OCT 2017	Student Travel Award for NIPS 2017
NOV 2017	WiML 2017 Travel Grant
AUG 2016 - 2011 - 15	Research Assistant, <b>Iowa State University</b> INSPIRE Scholarship, <b>Department of Science and Technology, Govt. of India</b>

## TEACHING ASSISTANTSHIPS

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SPRING 2018	EE 525:DATA ANALYTICS IN ELECTRICAL & COMPUTER ENG, <b>Iowa State University</b>
SPRING 2014	BITS C386:QUANTUM INFORMATION & COMPUTING, <b>BITS Pilani University</b>
FALL 2012	PHY F110:PHYSICS LABORATORY, <b>BITS Pilani University</b>

## REVIEWING

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IEEE Transactions on Signal Processing (TSP), 2018.  
International Conference on Signal Processing and Communications (SPCOM), 2018.  
Women in Machine Learning (WiML) Workshop, 2017.

## PROFESSIONAL ACTIVITIES

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Event coordinator, [Data Science Reading Group](#), **Iowa State University**.

updated on June 21, 2018