Akshay Gadde

Contact Information

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Education

Doctor of Philosophy in Electrical Engineering — Fall 2011 – present
University of Southern California
Advisor: Prof. Antonio Ortega
Expected graduation date: Fall 2016
GPA: 3.89/4.0

Bachelor of Technology in Electrical Engineering — Fall 2007 – Spring 2011
Indian Institute of Technology, Kharagpur, India
GPA: 9.01/10

Research Interests

Signal processing and learning on graphs, Signal representation, Machine learning, Multimedia data processing and compression

Honors and Awards

- Best Student Paper Award, IEEE Intl. Conf. on Acoustics, Speech and Signal Processing, 2014
- Provost's Fellowship, University of Southern California, 2011 to 2015
- National Talent Search Scholarship awarded by the Government of India, 2005
- Ranked 11^{th} in Maharashtra Common Entrance Test among 176,800 participants, 2007
- Among top 1.5% of 250,000 candidates in IIT-Joint Entrance Exam, 2007
- Among top 1% of 600,000 candidates in All India Engineering Entrance Exam, 2007
- 1^{st} in the state of Maharashtra in Maharashtra Talent Search Examination, 2004 and 2003

Professional Experience

Mitsubishi Electric Research Laboratories, Cambridge, MA — May-August 2014
Summer intern. Developed a novel method for reconstructing a signal from its projection on a subspace. Applied the proposed method to image magnification and object tracking.

University of Southern California, Los Angeles, CA — Fall 2013
Teaching assistant for EE503 (Graduate level course in Probability Theory). Responsibilities included conducting a weekly hour long discussion session, answering students' questions during office hours and grading the exams.

Infosys Software Engineering and Technology Labs, Bangalore, India — May-July 2010
Summer intern. Developed a hand gesture recognition system and a marker based augmented reality system.

Publications

1. A. Anis, **A. Gadde** and A. Ortega, "Efficient Sampling Set Selection for Bandlimited Graph Signals Using Graph Spectral Proxies", accepted for publication in IEEE Transactions on Signal Processing, 2016.
2. E. En Gad, **A. Gadde**, S. Avestimehr and A. Ortega, "Active Learning on Weighted Graphs Using Adaptive and Non-adaptive Approaches", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2016.

3. **A. Gadde**, A. Knyazev, D. Tian and H. Mansour, "Guided Signal Reconstruction with Application to Image Magnification", IEEE Global Conference on Signal and Information Processing (GlobalSIP), 2015.
4. **A. Gadde** and A. Ortega, "A Probabilistic Interpretation of Sampling Theory of Graph Signals", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2015.
5. **A. Gadde**, A. Anis and A. Ortega, "Active Semi-Supervised Learning Using Sampling Theory for Graph Signals", ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2014.
6. A. Anis, **A. Gadde** and A. Ortega, "Towards a Sampling Theorem for Signals on Arbitrary Graphs", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2014 (*Best student paper award*).
7. S.K. Narang, **A. Gadde**, E. Sanou and A. Ortega, "Localized Iterative Methods for Interpolation in Graph Structured Data", IEEE Global Conference on Signal and Information Processing (GlobalSIP), 2013.
8. **A. Gadde**, S.K. Narang and A. Ortega, "Bilateral Filter: Graph Spectral Interpretation and Extensions", IEEE International Conference on Image Processing (ICIP), 2013 (*Top 10% of all accepted papers*).
9. S.K. Narang, **A. Gadde** and A. Ortega, "Signal Processing Techniques for Interpolation in Graph Structured Data", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2013.

Professional Activities

– Reviewer for IEEE Transactions on Signal Processing and IEEE Transactions on Image Processing
– Graduate student member of IEEE and SPS

Graduate Coursework

Digital Signal Processing, Digital Image Processing, Probability Theory, Statistics, Random Processes in Engineering, Mathematical Pattern Recognition, Sparse Approximation Methods, Wavelets, Data Mining and Statistical Inference, Analysis of Algorithms, Vector Space Methods for Signal Processing, Graph Signal Processing, Probabilistic Graphical Models, Multimedia Data Compression, Foundations of Optimization

Computer Skills

– **Languages & Software**: MATLAB, C, C++, Python, LaTeX
– **Operating Systems**: Windows, Linux

References

Available upon request