Arian Maleki

Education

Stanford University 2004-present	• PhD in Electrical Engineering ◦ Advisor: **David Donoho** • MSc in Statistics	Stanford, CA
Sharif University of Technology 1998-2004	• BSc in Electrical Engineering • MSc in Electrical Engineering	Tehran, Iran

Research interests

- Compressed Sensing
- Machine Learning
- Wavelet and Multi-resolution Analysis
- Image Processing
- Approximation Theory

Teaching experiences

- Statistical Signal Processing
- Machine Learning
- Signals and System
- Digital Signal Processing
- Control Theory

Selected publications

- Journal Papers

1. D. L. Donoho, A. Maleki, and A. Montanari, "**Constructing message passing algorithms for compressed sensing**," to be submitted to *IEEE Transactions on Information Theory*.
2. A. Maleki and B. Rajaratnam, " **Covariance regularized regression: theory and design**," in preparation.
3. D. L. Donoho, A. Maleki, and A. Montanari, " **Message passing algorithms for compressed sensing**," *Proceedings of National Academy of Sciences, PNAS*, vol. 106, no. 45, Nov. 2009.
4. A. Maleki and D. L. Donoho, "**Optimal tuning of iterative thresholding algorithms for compressed Sensing**," *IEEE Journal of Selected Topics in Signal Processing*, 2009.

5. D. L. Donoho, A. Maleki, M. Shahram, V. Stodden, and I. Ur Rahman, "**Reproducible research in computational harmonic analysis,"** *Computing in Science and Engineering*, vol. 11, p 8-18, Jan. 2009

- **Conference papers**

1. D. L. Donoho, A. Maleki, and A. Montanari, "**Message passing algorithms for compressed sensing, part 1: Motivation and construction,**" *IEEE Information Theory Workshop*, 2010.
2. D. L. Donoho, A. Maleki, and A. Montanari, "**Message passing algorithms for compressed sensing, part 2: Analysis and validation,**" *IEEE Information Theory Workshop*, 2010.
3. A. Maleki, " **Coherence analysis of iterative thresholding algorithms**," *Allerton conference on communication, control and computing*, 2009.
4. A. Maleki and D. L. Donoho, "**Phase transition of iterative thresholding algorithms**," *SPARS*, France, 2009.
5. N. Asgharbeigi and A. Maleki, "**A solution to the drawbacks of spectral clustering**", *International Conference on Pattern Recognition*, Florida, 2008.
6. A. Maleki and N. Asgharbeigi, "**Coherent and heterogeneous approach for clustering** ," *Artificial Intelligence and Pattern Recognition,* Florida, 2008.
7. A. Maleki, M. Shahram, and G. Carlsson, "**Near optimal coder for image geometries**," *International Conference on Image Processing*, San Diego, 2008.
8. A. Maleki and G. Carlsson, "**epsilon-entropy of piecewise polynomial functions and tree partitioning compression**," *ICASSP*, 2008.
9. A. Maleki and M. Shahram, "**Tree partitioning compression of piecewise polynomial functions**," *Asilomar Conference on Signals, System and Computers*, 2007.
10. C. L. Chang, A. Maleki, and B. Girod, "**Adaptive wavelet transform for image compression via directional quincunx lifting**," *IEEE International Workshop on Multimedia Signal Processing*, *MMSP-05*, Shanghai, China, November 2005.

Awards

- Ranked 7th in the PhD qualification examination among more than 150 students at Stanford university, 2005.
- Awarded Stanford school of engineering fellowship, 2004.
- Ranked 2nd in the department of electrical engineering among 170 BS students, Sharif University of Technology, 2002.
- Ranked 3rd among more than 5000 electrical engineering students in the entrance exam for Graduate Studies in Iran, 2002.
- Ranked 3rd among more than 5000 electrical engineering students in the 7th national olympiad for electrical engineers, 2002.
- Ranked 10th among more than 300,000 participants in national university entrance exam for BS degree in engineering/math/science, Iran, 1998.
- Ranked 2nd and awarded a silver medal in the Iranian national physics olympiad, 1997.

Programming Skills

- Matlab

- R
- C++

Contact Information

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