

Ron Rubinstein



Mailing address	Computer Science Department Technion – Israel Institute of Technology Haifa 32000, Israel	Phone	+972 (54) 222 9244
E-mail	ronrubin@cs.technion.ac.il	Date of birth	08/08/1980
		Place of birth	Austin, TX (USA)
		Web:	http://www.cs.technion.ac.il/~ronrubin

CURRENT OCCUPATION

2011- Researcher and algorithm developer, Perceptual Computing group, Intel development center, Haifa, Israel.
Fields of expertise: Machine Learning, Computer Vision and Image Processing.

2007- Lecturer, Technion – Israel Institute of Technology.

EDUCATION

2011 Ph.D. in Computer Science, Technion – Israel Institute of Technology.
Thesis title: “Analysis and Synthesis Sparse Modeling Methods in Image Processing”
Advisor: Prof. Michael Elad

2007 IPAM Short Course on Sparse Representation and High Dimensional Geometry, May 2007.

2002 B.Sc. in Computer Science, Hebrew University in Jerusalem. Summa cum Laude.

1996 Graduate of the “Michael” project for personal excellence.

WORK EXPERIENCE

2009-2010 Consultant, Sharp Laboratories of America, Camas WA.

2008 Research intern, Sharp Laboratories of America, Camas WA.

2002-2003 Computer science and physics instructor, eTeacher Ltd.

2000-2001 Software engineer, Mempile Ltd. (part-time).

TEACHING EXPERIENCE

2015- Senior lecturer, Technion – Israel Institute of Technology.

2007-2014 Lecturer, Technion – Israel Institute of Technology.
Recipient of the lecturer's commendation for excellence in teaching.
Courses: “Introduction to Computer Science” and “Introduction to Systems Programming”.

2005-2007 Senior teaching assistant, Technion – Israel Institute of Technology.
Recipient of the Teaching Assistant's Excellence Award.

2003-2005 Teaching assistant, Technion – Israel Institute of Technology.

2002-2003 Computer science and physics instructor, eTeacher Ltd. Student ranking 5/5.

AWARDS AND HONORS

2018 Chillag prize for excellence in teaching, Technion IIT.

2008-2017 Lecturer's commendation for excellence in teaching, Technion IIT (2008,2010,2011, 2017).

2007 Full scholarship, IPAM Short Course on Sparse Representation, May 2007.

2006 Teaching Assistant's Excellence Award, Technion IIT.

2002 B.Sc., The Hebrew University in Jerusalem, Summa cum Laude.

1998-2002 Full scholarship, The Hebrew University in Jerusalem.

1998-2001 Dean's List, The Hebrew University in Jerusalem.

1998-2001 Dean's Award for excellence, The Hebrew University in Jerusalem.

1998 Excellence award from the Mayor of Rehovot, “Katzir” high school, Rehovot, Israel.



PROJECTS

- 2018 *Image compression using deep learning methods (supervisor)*
Employing deep convolutional networks for improved image compression.
- 2016 *Image deconvolution using the Supervised Descent Method (supervisor)*
Adaptation of the SDM algorithm to image processing problems.
- 2012 *Adaptive image compression using multi-scale transforms (supervisor)*
Combining adaptive dictionaries and multi-scale transforms for image compression.
- 2010-2011 *Adaptive image compression using sparse dictionaries (supervisor)*
Development of an image compression technique based on adaptive sparse dictionaries.
- 2009 *Texture segmentation via overcomplete dictionaries (supervisor)*
Development of a texture segmentation method which uses adaptive overcomplete dictionaries.
- 2006 *Superresolution under complex motion models (supervisor)*
Implementation of a regularized Total-Variation-based superresolution algorithm and its extension to complex motion models.
- 2006 *Fusion of differently exposed images – implementation in C++ (supervisor)*
Implementation of the image fusion algorithm in C++. Developed under Microsoft Visual Studio.
- 2005 *Automatic cropping of tagged area (supervisor)*
Stable and efficient algorithm for fully-automatic detection of rectangular cropping regions in a scanned image; regions are tagged by two high-contrast labels.
- 2004 *Fusion of differently exposed images*
Multiscale-based method for fusing differently exposed color images of the same scene.

SELECTED PUBLICATIONS

- Rubinstein, R., Peleg, T. and Elad, M. (2013) *Analysis K-SVD: A Dictionary-Learning Algorithm for the Analysis Sparse Model*. IEEE Transactions on Signal Processing, Vol. 61, No. 3, February 2013.
- Horev, I., Bryt, O. and Rubinstein, R. (2012) *Adaptive Image Compression using Sparse Dictionaries*. IWSSIP 2012, Vienna, Austria, April 2012.
- Rubinstein, R., Bruckstein, A.M. and Elad, M. (2010) *Dictionaries for Sparse Representation Modeling*. Proceedings of the IEEE, Vol. 98, No. 6, June 2010.
- Rubinstein, R., Zibulevsky, M. and Elad, M. (2010) *Double Sparsity: Learning Sparse Dictionaries for Sparse Signal Approximation*. IEEE Transactions on Signal Processing, Vol. 58, No. 3, March 2010.
- Rubinstein, R., Zibulevsky, M. and Elad, M. (2008) *Efficient Implementation of the K-SVD Algorithm using Batch Orthogonal Matching Pursuit*. Technical Report – CS Technion, April 2008.
- Elad, M., Milanfar, P. and Rubinstein, R. (2007) *Analysis versus Synthesis in Signal Priors*. IOP Inverse Problems, Vol. 23, No. 3, June 2007.

ACTIVITIES AND AVOCATIONS

- Sailing (licensed skipper)
Photography
Music (piano playing)
Volunteer, Israel Cancer Association
Volunteer, Etgarim – Israel Outdoor Sports and Recreation Association for the Disabled
-