

Roey MECHREZ

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<http://cgm.technion.ac.il/people/Roey/>

PERSONAL DATA

I'm currently pursuing a PhD at the department of Electrical Engineering at the Technion. I work at the Computer Graphics & Multimedia lab under supervision of Prof. Lihi Zelnik-Manor. My research interests are in the areas of Computer Vision and Image Processing. More specifically I am interested in photorealistic image synthesis and manipulation, image editing, style transfer, image similarity and deep learning.

NATIONALITY Israel, Netherlands
LANGUAGES Hebrew (native), English (fluent)

EDUCATION

2015 - present	PhD in Electrical Engineering , <i>Technion – Israel Institute of Technology</i>
Research area	Computer Vision, Image editing and synthesis, Tracking and matching and Deep learning.
Supervisor	Prof. Lihi Zelnik-Manor .
Co-Supervisor	Dr. Eli Shechtman (Adobe Research).
2012 - 2014	M.Sc in Biomedical Engineering , <i>Tel-Aviv University</i>
Thesis title	Patch-based Segmentation for MS lesions, link .
Supervisor	Prof. Hayit Greenspan and Prof. Jacob Goldberger (<i>Bar-Ilan University</i>)
Score	95.1/(100) Cum Laude ; link We proposed a fully automatic method for segmentation of Multiple sclerosis (MS) lesions in brain MRI. The method is based on similarities between multi-channel patches.
2010 - 2013	B.Sc in Biomedical Engineering , <i>Tel-Aviv University</i>
Score	91.1/(100) Cum Laude ; link

SCHOLARSHIPS AND AWARDS

- 2018 **Best papers (people choice) - WACV'18**
IEEE Winter Conf. on Applications of Computer Vision [link](#)
- 2018 **WACV PhD Forum – Traveling Grant**
IEEE Winter Conf. on Applications of Computer Vision [link](#)
- 2017 **The Andrew and Erna Finci Viterbi Fellowship Program**
The Technion [link](#)
- 2017 **Traveling grant - Workshop on Machine Learning and Computer Vision, Janelia Research Campus** [link](#)
- 2014 **Excellence in Research Studies Award,**
Tel-Aviv University School of Engineering [link](#)
- 2013 **Scholarship for Meritorious Achievement in B.Sc studies**
Tel-Aviv University School of Engineering.
- 2012, 2009 **Dean's List, Tel-Aviv University School of Engineering.**

PUBLICATIONS

- 2018 **Learning to Maintain Natural Image Statistics.** [link](#)
Mechrez, R., Talmi, I*. and Zelnik-Manor, L., *equal contribution, arXiv.*
- 2018 **The Contextual Loss for Image Transformation with Non-Aligned Data.** [link](#)
Mechrez, R., Talmi, I*. and Zelnik-Manor, L., *equal contribution, arXiv.*
- 2018 **Saliency Driven Image Manipulation. Best papers – people choice**
Mechrez, R., Shechtman, E. and Zelnik-Manor, L., WACV . [link](#)
- 2017 **Photorealistic Style Transfer with Screened Poisson Equation.**
Mechrez, R., Shechtman, E. and Zelnik-Manor, L., BMVC. [link](#)
- 2017 **Template Matching with Deformable Diversity Similarity. (Spotlight)** [link](#)
Mechrez, R., Talmi, I*. and Zelnik-Manor, L., *equal contribution, CVPR.*
Selected for a spotlight oral presentation at the conference. Selection rate 8%. (215 papers selected for spotlight oral or full oral out of 2620 submissions.)
- 2016 **Patch-based Segmentation with Spatial Consistency: application to MS Lesions in Brain MRI.**
Mechrez, R., Goldberger, J. and Greenspan, H., in International Journal of Biomedical Imaging. [link](#)
- 2015 **MS lesion segmentation using a multi-channel patch-based approach with spatial consistency.**
Mechrez, R., Goldberger, J. and Greenspan, H., in SPIE Medical Imaging. International Society for Optics and Photonics. [link](#)

SERVICE

- 2018 **Organizing PIRM: Workshop and Challenge on Perceptual Image Restoration and Manipulation** in conjunction with ECCV. [website](#).
- 2018 **ECCV - Reviewer**
- 2018 **CVPR - Outstanding Reviewers**

EXPERIENCE

- 2016 - present **Teaching Assistant, The Technion**
Computer Vision Algorithms (EE) [2017](#), [2018](#).
- 2017
(May-July) **Researcher intern, IBM Research Haifa**
Computer Vision and Augmented Reality group
Supervisor: Leonid Karlinsky, PhD
- 2016 - 2017 **Pixel Club coordinator, The Technion**
a joint CS and EE colloquium on computer vision, image processing
and computer graphics, and any other "pixel" oriented field. [website](#).
- 2015 - 2016 **Teaching Assistant, The Technion**
Data Structures and Algorithms
- 2013 - 2015 **Algorithm Engineer, RSIP Vision - Tel-Aviv**
image processing, computer vision, image registration and heart
conduction models.
- 2012 - 2014 **Teaching Assistant, Tel-Aviv University**
Pattern Recognition, Introduction to Chemistry, Medical Signals
Processing laboratory (NMR, MRI, ultrasound and imaging).

COMPUTER SKILLS

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| Scientific | Experience with Python and MATLAB.
Deep learning with TensorFlow , MatConvNet (and basic
pyTorch and Torch (Lua)) |
| Programming | Basic Knowledge of C and C++ |

MILITARY SERVICE

- 2003 - 2009 Full military service as a Air Traffic Controller (ATC).
Still in active reserve duty as ATC (Major). Commander of
sub-unit of 30 soldiers; operational flight; control system
Characterization; leading of system implementation process; in
charge of officers training