

Roey MECHREZ

+972-54-5881991 – roimehrez@gmail.com

<https://roimehrez.github.io/>

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 The Netherlands, Israel
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

PUBLICATIONS

- 2018 **Adversarial Feedback Loop**
Shama, F., Mechrez, R., Shoshan, A., and Zelnik-Manor, L.,
submitted to CVPR'19. [arXiv](#).
- 2018 **Dynamic-Net: Tuning the Objective Without Re-training**
Shoshan, A., Mechrez, R., and Zelnik-Manor, L.,
submitted to CVPR'19. [arXiv](#).
- 2018 **Improving CNN Training using Disentanglement for Liver Lesion Classification in CT**
Ben-Cohen, A., Mechrez, R., Yedidia, N. and Greenspan, H.,
under review at ISBI. [arXiv](#)
- 2018 **2018 PIRM Challenge on Perceptual Image Super-resolution** [link](#)
Blau, Y., Mechrez, R.*, Timofte, R., Michaeli, T. and Zelnik-Manor, L.,*
ECCV workshop. [arXiv](#).
- 2018 **The Contextual Loss for Image Transformation with Non-Aligned Data.** [link](#)
Mechrez, R., Talmi, I*. and Zelnik-Manor, L., ECCV.* [arXiv](#).
Selected for full oral presentation at the conference. Acceptance rate 2.4%.
(60 papers out of 3000 submissions.)
- 2018 **Maintain Natural Image Statistics with the contextual loss.** [link](#)
Mechrez, R., Talmi, I*. and Zelnik-Manor, L., Accepted to ACCV.* [arXiv](#).
- 2018 **Saliency Driven Image Manipulation.** [Best paper – 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](#)
Talmi, I, Mechrez, R.* and Zelnik-Manor, L., CVPR.*
Selected for a spotlight presentation at the conference. Acceptance 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](#)

SCHOLARSHIPS AND AWARDS

- 2018 **KLA academic excellence award** - for the WACV'18 paper
The Technion Israel [link](#)
- 2018 **KLA outstanding conference papers award** - for the ECCV'18 paper
The Technion Israel
- 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 Israel [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 **Dean's List, Tel-Aviv University School of Engineering.**
- 2009 **Dean's List, Tel-Aviv University School of Engineering.**

SERVICE

- 2018 **Organizing PIRM: Workshop and Challenge on Perceptual Image Restoration and Manipulation** in conjunction with ECCV. [website](#).
- 2019 **CVPR** - Reviewer
- 2018 **ECCV** - Reviewer
- 2018 **CVPR** - [Outstanding Reviewers](#)

EXPERIENCE

- To take place **Lecturer: CNN for Computer Vision Winter School, *The Technion***
Based on the seminal course by Stanford University – CS231n
- 2016 - 2018 **Teaching Assistant, *The Technion***
Computer Vision Algorithms (EE) [2017](#), [2018](#).
- 2015 - present **Undergraduate Project Mentor, *The Technion***
I have mentored more than 15 projects in the field of computer vision and deep learning.
- 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

- Scientific Experience with Python and MATLAB.
Deep learning with TensorFlow, pyTorch and MatConvNet
- 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