

# Roey MECHREZ, PhD

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## OVERVIEW

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- I hold a PhD from the Technion-Israel focus on AI. My research lies at the intersection of computer vision, deep learning and business. As an AI pioneer and visionary with extensive innovation experience in various industries, I co-founded BeyondMinds to bridge AI theory to production. Currently, I'm the CEO (& CTO) and a Co-founder at BeyondMinds where I lead a company of 60 AI researchers and engineers to change you way the world operate AI.
  - I'm Experienced in working with large organizations helping them to adopt AI faster and better, specifically in manufacturing, finance, banking and technology. My focus is on faster time to value and bridging the gap to production.
  - I led the company development from 3 to 60 employees across the company including the R&D, but also building a WW sales and marketing operation.
- Was responsible for growing the company from the ground up, actively involved in all sales opportunities, deliveries and deals. In the last two years, I have been
- leading the company's thought leadership including conferences, events, articles, podcasts and webinars.

NATIONALITY: The Netherlands, Israel, leave to remain pre-settled status in the UK  
LANGUAGES: Hebrew (native), English (fluent)

LINKS: [ARTICLE: The long-tail of AI problems](#) | [ARTICLE: Adopting AI at Scale](#) | [WEBINAR: Real World AI The path to AI value](#) | [PODCAST: Towards stability and robustness](#) | [TALK: NVIDIA GTC talk](#) | [TALK: AI POC to Production gap](#) | [PODCAST: Utilizing AI](#) | [PODCAST: Data Challenges in Scaling AI](#) | [PODCAST: The Fintech Scaling Show](#) | [TALK: ECCV oral](#) | [PANEL: AI in finance 1](#) | [PANEL: AI in finance 2](#) | [ARTICLE: AI Will Fuel the Financial-Services](#) | [ARTICLE: How AI Can Live Up to the Hype](#) | [PODCAST: 20 Minute Leaders](#) | [ARTICLE: What Fraudsters and 'Black Swans' Have in Common, How AI Can Mitigate the Effects of Both](#)

## EXPERIENCE

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### *BeyondMinds*

2021 - 2022 **CEO, Co-Founder**, London, UK.

2019 - 2021 **CTO, Co-Founder**, London, UK.

- Leads the company's technology strategy.
- Mange 45 AI researchers and engineers, believe in innovation and simplicity while insist on the highest standards.
- Highly involved in sales and marketing, obsessed about helping customers get value from AI.
- Post A round, raised \$30M to date [link](#)

### *IBM Research*

2017 **Researcher intern**, Haifa, Israel  
Computer Vision and Augmented Reality group  
Supervisor: Leonid Karlinsky, PhD

2015-2021 *AI Startups Consulting*

### *Technion - Israel Institute of Technology*

2015 - 2019 **PhD student, Computer Vision and Deep Learning Researcher**  
2019 **Lecturer: CNN for Computer Vision Winter School**  
Based on the seminal course by Stanford University – CS231n. [link](#)  
2015 - 2018 **Teaching Assistant**  
Computer Vision Algorithms (EE) [2017](#), [2018](#).  
Data Structures and Algorithms  
2015 - 2019 **Undergraduate Project Mentor**  
I have mentored more than 15 projects in the field of computer vision and deep learning.  
2016 - 2017 **Pixel Club coordinator**  
a joint CS and EE colloquium on computer vision, image processing and computer graphics, and any other "pixel" oriented field. [website](#).

### *RSIP Vision*

2013 - 2015 **CV Algorithm Engineer**, Tel-Aviv, Israel  
image processing, computer vision, image registration and heart conduction models.

### *Tel-Aviv University*

2012 - 2014 **Teaching Assistant**  
Pattern Recognition, Introduction to Chemistry, Medical Signals Processing laboratory (NMR, MRI, ultrasound and imaging).

## EDUCATION

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2015 - 2019 **PhD in Electrical Engineering**, *Technion – Israel Institute of Technology*  
Research area Computer Vision, Image editing and synthesis, Tracking and matching and Deep learning.  
I have published 13 academic papers with more than 600 citations.  
Supervisor [Prof. Lihi Zelnik-Manor](#) | [Dr. Eli Shechtman](#) (Adobe Research).

2012 - 2014 **M.Sc in Biomedical Engineering**, *Tel-Aviv University*  
Thesis title Patch-based Segmentation for MS lesions, [link](#).  
Supervisor Prof. [Hayit Greenspan](#) and Prof. [Jacob Goldberger](#) (*Bar-Ilan University*)  
Score 95.1/(100) [Cum Laude](#); [link](#)  
We proposed a fully automatic method for segmentation of Multiple sclerosis (MS) lesions in brain MRI.

2010 - 2013 **B.Sc in Biomedical Engineering**, *Tel-Aviv University*  
Score 91.1/(100) [Cum Laude](#); [link](#)

- 2020 **Self-Supervised Dynamic Networks for Covariate Shift Robustness**  
Cohen, T., Shulman N., Morgenstern H., Mechrez R., Farhan, E.,  
under review. [arXiv](#).
- 2019 **Saliency Driven Image Manipulation** (extended version)  
Mechrez, R., Shechtman, E. and Zelnik-Manor, L.,  
Machine Vision and Applications (special issue: IEEE WACV'18). [link](#)
- 2018 **Adversarial Feedback Loop**  
Shama, F., Mechrez, R., Shoshan, A., and Zelnik-Manor, L.,  
ICCV'19. [arXiv](#).
- 2018 **Dynamic-Net: Tuning the Objective Without Re-training**  
Shoshan, A., Mechrez, R., and Zelnik-Manor, L.,  
ICCV'19. [arXiv](#).
- 2018 **Improving CNN Training using Disentanglement for Liver Lesion Classification in CT**  
Ben-Cohen, A., Mechrez, R., Yedidia, N. and Greenspan, H.,  
EMBC [arXiv](#)
- 2018 **The 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\*, Shama, F. and Zelnik-Manor, L., 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

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- 2019 **Excellence Scholarship Faculty Funding**  
*The Technion Israel*
- 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

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- 2020 **Co-Organizing AIM: Advances in Image Manipulation workshop and challenges on image and video manipulation in conjunction with ECCV.**  
[website.](#)
- 2018 **Organizing PIRM: Workshop and Challenge on Perceptual Image Restoration and Manipulation in conjunction with ECCV.** [website.](#)
- CVPR 2018, 2019, 2020 - Reviewer
- ECCV 2018, 2019, 2020 - Reviewer
- ICCV 2018, 2019, 2020 - Reviewer
- [CVPR Outstanding Reviewers](#)

## MILITARY SERVICE

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- 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