Roey MECHREZ, PhD

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OVERVIEW

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 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 90 employees across the company including the R&D, but also building a WW sales and marketing operation.
 - Was responsible for growing the company from zero to 5M\$ARR as the CTO, 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

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 Al 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 then 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

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

- 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.
- Improving CNN Training using Disentanglement for Liver Lesion Classification in CT

 Ben-Cohen, A., Mechrez, R., Yedidia, N. and Greenspan, H.,

 EMBC arXiv
- 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.
- 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.)
- 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*

International Society for Optics and Photonics. link

- 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.)
- 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
- MS lesion segmentation using a multi-channel patch-based approach with spatial consistency.

 Mechrez, R., Goldberger, J. and Greenspan, H., in SPIE Medical Imaging.

SCHOLARSHIPS AND AWARDS

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

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

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