

Roi Ronen

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Education

Ph.D., Electrical & Computer Engineering, Technion, 2021 - current
Advisor: Yoav Y. Schechner

M.Sc, Electrical & Computer Engineering, Technion, GPA 93.0, 2019 - 2021
Advisor: Yoav Y. Schechner
Research topics: Tomography, Computer Vision, and Deep Learning

B.Sc, Electrical & Computer Engineering, Technion, *summa cum laude*, GPA 93.2, 2015 - 2019
Specializations: Deep and Machine Learning, Signal and Image processing, Electro-Optics

Awards & Service

- Committee member, JOSA A Best Paper Award 2022
 - Paper Reviewer: TPAMI, Trans. on Comp. Imaging
 - Seminar at Toronto University - Robust and fast 3D tomography of natural objects, hosted by Kyros Kutulakos and David B. Lindell
 - **Jewish National Fund Climate Scholarships 2022/2023**
 - **2021 JOSA A Emerging Researcher Best Paper Award**
 - **JOSA A Editor's Pick Award**
 - **Kasher Award, 2nd place:** undergraduate project contest in the Faculty of Electrical Engineering, Technion, 2020
 - Technion, Electrical Engineering, President's list, winter '17, spring '18, spring '19
 - Technion, Electrical Engineering, Dean's list, winter '15, spring '16, winter '16, spring '17, winter '18
 - Apple Excellence Award, January '19
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Employment

Amazon AI Labs - Rekognition group / Applied scientist, 2024

Amazon AI Labs - Rekognition group / Applied scientist intern, 2023

- Conducted research in **document VQA and LLMs**
- Paper submission

Electrical Engineering, Technion / PixelClub coordinator, 2021

- Computer vision seminar coordinator at the Technion

Amazon AI Labs - Rekognition group / Applied scientist intern, 2021

- Internship in the field of deep learning
- Conducted research in **scene text detection and recognition**
- Paper publishing

Electrical Engineering, Technion / Teaching assistant, 2020

- Taught Signals and Systems (044131)
- **Outstanding Teaching Assistant Award**

P&P tech / Biomedical R&D, 2016 - 2019

- Designed, executed, and analyzed biomedical experiments
 - Performed physics-based simulations
 - Developed algorithms for signal and Image processing
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Publications

Peer-Reviewed Published Papers

- **Roi Ronen**, Ilan Koren, Aviad Levis, Eshkol Eytan, Vadim Holodovsky and Yoav Y. Schechner, [Learned 3D volumetric recovery of clouds and its uncertainty for climate analysis](#), *Under review*
- Inbal Kom Betzer, **Roi Ronen**, Vadim Holodovsky, Yoav Y. Schechner and Ilan Koren, [NeMF: Neural Microphysics Fields](#), *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2024 (Oral)
- T. Blau, S. Fogel, **R. Ronen**, A. Golts, R. Ganz, E. Ben Avraham, A. Aberdam, S. Tsiper, and R. Litman, [GRAM: Global Reasoning for Multi-Page VQA](#), *Computer Vision and Pattern Recognition*, 2024 (Poster)
- Nadav Torem*, **Roi Ronen***, Yoav Y. Schechner, and Michael Elad, [Towards A Most Probable Recovery in Optical Imaging](#), *International Conference on Computer Vision*, 2023 (Poster)
- **Roi Ronen***, Shahar Tsiper*, Oron Anshel, Inbal Lavi, Amir Markovitz, and R. Manmatha, [GLASS: Global to Local Attention for Scene-Text Spotting](#), *European Conference on Computer Vision*, 2022 (Oral)
- **Roi Ronen**, Vadim Holodovsky, Yoav Y. Schechner, [Variable Imaging Projection Cloud Scattering Tomography](#), *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2022 (Oral)
- **Roi Ronen**, Yoav Y. Schechner, Eshkol Eytan, [4D Cloud Scattering Tomography](#), *IEEE International Conference on Computational Vision*, 2021 (Poster)
- **Roi Ronen**, Yoav Y. Schechner, Eshkol Eytan, [Spatiotemporal tomography based on scattered multiangular signals and its use for resolving evolving clouds using moving platforms](#), *In EGU General Assembly Conference Abstracts*, 2021 (Oral)
- **Roi Ronen**, Yacov Attias, Yoav Y. Schechner, Jules S. Jaffe, Eric Orenstein, [Plankton Reconstruction through Robust Statistical Optical Tomography](#), *Journal of the Optical Society of America A*, 2021. **Editor's Pick Award and 2021 Emerging Researcher Best Paper Award**

* Equal contribution

Talks at International Conferences

- **Roi Ronen**, Vadim Holodovsky, Yoav Y. Schechner, [Variable Imaging Projection Cloud Scattering Tomography](#), *IEEE International Conference on Computational Photography*, 2022
 - **Roi Ronen**, Yoav Y. Schechner, Eshkol Eytan, [Spatiotemporal Optical Tomography of Cloud Microphysics by Overflying or Orbiting Cameras](#), *International Radiation Symposium*, 2022
 - **Roi Ronen**, Yoav Y. Schechner, Eshkol Eytan, [Spatiotemporal tomography based on scattered multiangular signals and its application for resolving evolving clouds using moving platforms](#), *IEEE International Conference on Computational Photography*, 2021
 - **Roi Ronen**, Yacov Attias, Yoav Y. Schechner, Jules S. Jaffe, Eric Orenstein, [Plankton Reconstruction through Population-based Statistical Optical Tomography](#), *IEEE International Conference on Computational Photography*, 2021
 - **Roi Ronen**, Yoav Y. Schechner, Eshkol Eytan, [Spatiotemporal tomography based on scattered multiangular signals and its use for resolving evolving clouds using moving platforms](#), *European Geosciences Union General Assembly*, 2021
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Skills

- Image and signal processing, 3D geometry, Tomography, Cameras, and sensors
 - Proficiency with: machine and deep learning libraries including Pytorch, OpenCV, Tensorflow, Keras, Scikit-learn, and Pandas
 - High Proficiency in Python, Matlab, and C/C++
 - Mathematical foundations behind Machine and Deep Learning algorithms
 - Background in statistics, probability theory, linear algebra, and optimization
 - Hebrew - mother tongue, English - written and spoken
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