

## 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

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### Awards & Service

- Committee member, JOSA A Best Paper Award 2022
  - Paper Reviewer at 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 part-time researcher, 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

- 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](#), Under review
- **Roi Ronen**, Aviad Levis, Vadim Holodovsky, Yoav Y. Schechner, Ilan Koren, and Eshkol Eytan, [ProbCT: Probabilistic Computed Tomography of Clouds](#), Under review
- Nadav Torem\*, **Roi Ronen\***, Yoav Y. Schechner, and Michael Elad, [Towards A Most Probable Recovery in Optical Imaging](#), *International Conference on Computer Vision*, 2023
- **Roi Ronen**, Shahar Tsiper, Oron Anschel, 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**, 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**

### 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

## Skills

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- 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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