Khen Cohen Tel Aviv, Israel March 2026
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EDUCATION AND RESEARCH

2023-current **Tel Aviv University** Tel Aviv, Israel
Doctor of Philosophy, supervisor: Prof. Yaron Oz, Quantum Information and Technology

Activities and Honors

- Research focus: Quantum Information and Technology, Quantum Optics, Quantum with AI.
- Awarded the VATAT Scholarships for outstanding doctoral students in data science (2025)
- Lecturer, "Imaging Systems and Optical Signal Processing" (2025-current)
- Supervised over 60 undergraduate students in final-year research projects (2024-current)
- Oral presentation in QERNEL quantum conference, Bar Ilan University (2025)
- Selected participant, Global Young Scientists Summit (GYSS), Singapore (2024)
- Awarded the Milner Scholarship for Excellence in PhD Studies (2024)
- Presented a poster at the ML Theory Summer School, Princeton University, USA (2024)
- Presented a poster at the "Frontiers in Physics" Conference, LMU Munich, Germany (2024)
- Attended the "Machine Learning for Quantum Technology" Conference, Max Planck Institute, Germany (2024)
- Awarded the Shmeltzer Institute for Smart Transportation Prize for Innovation in Transportation (2024)
- Oral presentation at Quantum Day, Cyber Week, Tel Aviv University (2024)

2022-2023 **Coller School of Management, Tel Aviv University** Tel Aviv, Israel
Master of Business GPA 92.64/100, Summa Cum Laude

- Selected to represent the school in San Diego Immersion Program US (2023)
- Cited on the Dean's List for Excellent Academic Achievements (2022/23)

2019-2022 **Tel Aviv University** Tel Aviv, Israel
Master of Electrical Engineer, *supervisor: Prof. David Mendlovic* GPA 95.02/100, Summa Cum Laude
Thesis: Hardware Analysis and Temporal Super Resolution for Motion Estimation

Honors

- Awarded the Shmeltzer Institute for Smart Transportation Prize for innovation in transportation (2023)
- Selected to participate virtually in the Global Young Scientists Summit (GYSS) (2023).
- Awarded the KLA excellence prize for students in research (2022)
- Awarded the Electro-optics Prize of excellence in research (2021)
- Awarded the signal processing Weinstein Prize of excellence in research (2021)
- Awarded the Faculty Certificate of excellence in research (2021)
- Cited on the Dean's List for Excellent in Teaching (academic years 2020/21)

Activities

- Teacher assistant, "Waves Transmission and Distributed Systems", taught 140 students (2019-2020)
- Teacher assistant and lecturer, "Imaging Systems and Optical Signal Processing", taught 40 students (2021-current)
- Teacher assistant and lecturer, "Classical Optics", taught 30 students (2021-current)
- Supervised 27 final projects in Electrical Engineering (above 50 students in total)
  - Participated in research about Quantum Computing with Prof. Yaron Oz on Quantum Reinforcement Learning (2020-2022)

2015-2019 **Tel Aviv University** Tel Aviv, Israel
Bachelor of Electrical Engineering *and* Bachelor of Physics

- LL.B. Magma cum Laude, GPA: 93.69/100 (Physics)
- LL.B. Magma cum Laude, GPA: 93.44/100 (EE)
- Ranked 7/230, top 3**%**

Honors

- Cited twice on the Dean's List for Excellent Academic Achievements (academic years 2016/17 and 2018/19, EE)
- Cited twice on the Dean's List for Excellent Academic Achievements (academic years 2016/17 and 2017/18, Physics)
- Awarded the Memorial Scholarship for excellent students (academic years 2016/17, Physics)
- Awarded the Physics School Scholarship for excellent students (academic years 2016/17, Physics)

- Awarded the KLA Scholarship for excellent students (academic years 2017/18, EE)

Activities

- Selected to the student union as a class representative, represented the students' needs (2015-2019)
- Participated in research about Silicon Photonics in the Nano-Femto lab of Prof. Haim Suchowski (2016-2019)

PROFESSIONAL EXPERIENCE

2020-2023 **DTect Vision Ltd.** Tel Aviv, Israel

Co-Founder and Hardware and Camera Team Director

- Founded together with Prof. David Mendlovic and Dr. Dan Raviv
- Led the development of 6 patents of the company, including the idea, prototype, and writing process.
- Participated in the Accelerator program of TAU Ventures (2021)

2017-2019 **Apple Inc.,** Herzliya, Israel

Student Physical Design Engineer

- Engineered high-performance design for Apple's chip.
- Designed a guide for new employees in the Physical Design department to help them ramp up as quickly and as smoothly as possible.

PUBLICATIONS and PATENTS

- **9 published** academic papers
- **6** academic papers **under review**
- **9** US **patents / pending**

ADDITIONAL INFORMATION

Languages: English (fluent); Hebrew (native)

Interests: Reading, traveling, biking, programming

Published Papers:

1. Ori Shem-or, **Khen Cohen**, and Yaron Oz, "**Weak Correlations as the Underlying Principle for Linearization of Gradient-Based Learning Systems**", *ICLR (2026).* https://arxiv.org/abs/2401.04013.
2. **Khen Cohen**, Yoav Yosif-Or, Yaron Oz, and Ady Arie, "**Single Plane Spatial Mode Sorter**", *Optics Express* (2026). https://opg.optica.org/oe/fulltext.cfm?uri=oe-34-2-1837
3. Noam Rimok**, Khen Cohen**, and Yaron Oz**, "Generalized Type II Fusion of Graph States"**, *Phys. Rev. A* (2026). https://journals.aps.org/pra/abstract/10.1103/w9w5-2h7r
4. **Khen Cohen**, Haim Suchowski, and Yaron Oz. "**Robust Photonic Quantum Gates With A Large Number of Waveguide Segments**." *Advanced Quantum Technologies* (2025): e2500304. https://advanced.onlinelibrary.wiley.com/doi/full/10.1002/qute.202500304
5. **Khen Cohen**, Hen, L. & Lellouch, A. **A fiber-optic traffic monitoring network trained with video inputs**. *Sci Rep* 15, 28954 (2025). https://doi.org/10.1038/s41598-025-14928-7
6. **Khen Cohen**, Yaron Oz, and De-Liang Zhong**, "Complexity Measure Diagnostic of Ergodic to Many-Body Localization Transition"**, *Phys. Rev. B* (2024) https://journals.aps.org/prb/abstract/10.1103/PhysRevB.110.L180101
7. **Khen Cohen**, Dan Raviv and David Mendlovic**, "Temporal Super-Resolution using Multi-Channel Illumination Source**", *MDPI Sensor* (2024) https://www.mdpi.com/1424-8220/24/3/857
8. **Khen Cohen**, Homer Levy, Omer Hershko, David Mendlovic and Dan Raviv**, "Illumination-Based Color Reconstruction for the Dynamic Vision Sensor**", MDPI *Sensors* (2023) https://www.mdpi.com/1424-8220/23/19/8327
9. **Khen Cohen**, Gal Hodeda, Emanuel Almog, Dan Raviv and David Mendlovic, "**Hardware Analysis for Motion Estimation Task**", *Applied Optics* (2022) https://opg.optica.org/ao/abstract.cfm?uri=ao-61-15-4303

Under Review:

10. **Khen Cohen***, Jonatan Piasetzky*, Yehonatan Drori, Amit Rotem, Yuval Warshavsky, Yaron Oz, and Haim Suchowski **"High-Fidelity Integrated Quantum Photonic Logic Via Robust Directional Couplers"**, (arXiv: 2412.11670) under review in PRL. https://arxiv.org/abs/2502.20069.
11. Jonatan Piasetzky, Amit Rotem, Yuval Warshavsky , Yehonatan Drori, **Khen Cohen** , Yaron Oz , Haim Suchowski**, "High fidelity CNOT gates in photonic integrated circuits using composite segmented directional couplers"** under review in Optica Quantum. https://arxiv.org/abs/2509.25505.
12. Ido Nitzan Hidekel, Gal Lifshitz, **Khen Cohen**, and Dan Raviv, **"DANCE in the Latent Space: Distribution Alignment for Noise and Content Extraction"**, under review in ICLR.
13. Jonatan Piasetzky, Yehonatan Drori, Yuval Warshavski, Amit Rotem, **Khen Cohen**, Yaron Oz, Haim Suchowski, **Robust Characterization of Integrated Photonics Directional Couplers,** (arXiv: 2412.11670) https://arxiv.org/abs/2412.11670.
14. Yanay Katz-Danan**, Khen Cohen**, and Jonatan Ostrometzky**, "Short-Term Spatiotemporal Photo-Voltaic power generation forecasting based on Interpolated Video Modeling"**, under review in JSTARS.
15. **Khen Cohen**, Noam Levy, and Yaron Oz, "**Classifying Overlapping Gaussian Mixtures in High Dimensions: From Optimal Classifiers to Neural Networks**"(arXiv: 2405.18427). https://arxiv.org/abs/2405.18427.

Patents:

1. Universal spatial optical spatial mode transformer, US Patent (pending) (2026)
2. Single Plane Spatial Mode Sorter, US Patent (pending) (2025)
3. Robust Coupled Waveguides Design for Quantum Gates, US Patent 63/704,436 (2024)
4. Method for Monitoring Traffic Using Convolutional Neural Networks with Video Signals over Distributed Fiber-Optics Sensing, US Patent 63/663,951 (2024)
5. System and method for identifying a person in a video, US Patent US12236713B2 (2021) https://patents.google.com/patent/US12236713B2/en
6. Dynamic Vision Sensor Color Camera, US Patent US12167153B2 (2021) https://patents.google.com/patent/US12167153B2/en
7. High-Frequency Sensitive Neural Network, US patent US20240281642A1 (2021) https://patents.google.com/patent/US20240281642A1/en
8. Temporal super-resolution, US Patent US20240264308A1 (2021) https://patents.google.com/patent/US20240264308A1/en
9. Dynamic Identity Authentication, US Patent US20230306094A1(2020) https://patents.google.com/patent/US20230306094A1/en