

Nir Goldfriend

Tech-lead ; Physicist ; Problem-solver

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🌐 Nir Goldfriend

📍 Tel-Aviv ISR

🐙 GitHub

A physicist in background and engineer in practice. More than 5 years experience in various research, system architecture and other engineering problems. Leading projects in optics, photonics, acoustics, signal and image processing, model-based reconstruction algorithms and machine-learning.

Work Experience

- 2021 - ▶ **Electro-optics system engineer** Apple.
Physicist in camera and depth sensing architecture team.
Developing and optimizing electro-optic systems for camera and depth-sensing application. Collaborating with cross-functional teams, conducting in-depth analysis and hands-on testing, applying physics and engineering principles to develop high-performance optical components, interfacing with vendors for hardware integration, and leading problem-solving efforts to ensure system performance and user experience.
- 2019 - 2020 ▶ **Academic teaching staff** The Hebrew University of Jerusalem.
Tutor at Applied Physics and Electrical Engineering Department.
Courses:
- Physics Laboratory for Engineering.
- 2014 - 2015 ▶ **High school teacher and mentor** Ramla-Lod High school.
I was honored to uniquely be elected as a young math teacher for at-risk students, designing and teaching customized lesson plans tailored to meet the unique learning needs and challenges faced by their underserved backgrounds.

Education

- 2018 - 2021 ▶ **MSc. Cum Lauda Applied Physics , The Hebrew University of Jerusalem , Israel .**
I was a member at the Advanced Imaging Lab. I established a complex imaging modality combining optics, acoustics and computational image reconstruction, involving a bunch of elegant physics and computational skills. I also worked on remote sensing technique based on statistical optics and signal processing.
- 2015 - 2018 ▶ **BSc. Physics and Chemistry, The Hebrew University of Jerusalem , Israel .**
Program for outstanding students. During my bachelor I participated in "Etar" honors program, worked on superconducting coplanar waveguide resonator used for quantum computing and developed a simulation of brain and neural activity of Mollusca (marine species)

Skills

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|---------------------------------|--|
| Languages | ▶ High reading, writing and speaking competencies for English. Basic Mandarin-Chinese with several technical courses. |
| Coding and software development | ▶ MATLAB, Python and basic bash; DevOps (CI/CD and infra); hands-on data science paradigms and tools... |
| Hardware development | ▶ Symbolic and numerical simulations in optics and acoustics; Building system prototypes in various imaging and remote sensing setups. |
| Algorithms development | ▶ Image processing and physical-based algorithm development for large-scale products. |

Skills (continued)

- Misc. ▶ Academic and industrial research, teaching, training, consultation, managing.

Publications, Patents, Press

- N. Goldfriend, *Msc thesis: Compressive photo-acoustic 3d true optical resolution imaging*, 2021.
- N. G. (Apple), "US Patent P64110US1 (*In review)," 2024.

Honors

- 2019 ▶ **Dean's list**, Hebrew University of Jerusalem
- 2018 ▶ **HUJI NanoCenter Award for Excellence**
- 2015 ▶ **Scholarship for outstanding students**, Hebrew University of Jerusalem.

Time-off

- Volunteering ▶ **Sunrise Association** for young cancer patients
- Good to talk about ▶ Mongolia, Isla-de-Pascua, Mountaineering and Trekking Swimming and Cycling, Music play and theory, History and more