Nir Goldfriend

Analytical Physicist | Data Analysis & Simulation | Algorithm Development

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in LinkedIn | github.com/nircko

Experience

Stealth Startup | *CTO* 2025 – 2026
- **Machine Vision Innovation**: Managing the development of an innovative machine-vision system tailored for physical AI form factors. Keeping in pace with ever-developing AI models.
- **Engineering Operations**: Managing technical roadmaps and resource allocation to mitigate risks and ensure high-level prioritization.
- **Business & Technical Strategy**: Leading efforts across technology, fundraising, and product strategy. Driving customer discovery, managing stakeholder expectations, and hiring subcontractors. Successfully secured initial funding alongside my partners.

Apple | *Electro-optics System Engineer* 2021 – 2024
- **Architecture**: Developed camera and depth sensing architecture and created methodologies for testing those systems, improving their performance and allowing them to be manufactured in very large volume.
- **System Engineering**: Owned the skill to take those systems from design to large-scale manufacturing under the best standards of Apple.
- **Collaboration**: Led complex problem-solving efforts with cross-functional teams and managed technical interfaces with vendors for hardware integration.

The Hebrew University of Jerusalem | *Academic Tutor* 2019 – 2020
- **Instruction**: Part of the teaching staff at the Applied Physics and Electrical Engineering Department, instructing in engineering-focused physics laboratories.

Ramla-Lod High School | *High School Teacher and Mentor* 2014 – 2015
- **Curriculum Development**: Designed and implemented specialized lesson plans tailored for at-risk student populations to improve classroom engagement.
- **Mentorship**: Provided dedicated guidance to students from low socio-economic backgrounds and underserved communities.

Education

The Hebrew University of Jerusalem | *MSc. Cum Lauda Applied Physics* 2018 – 2021
- **Research**: Member of Advanced Imaging Lab; established a complex imaging modality combining optics, acoustics, and computational reconstruction.

The Hebrew University of Jerusalem | *BSc. Physics and Chemistry* 2015 – 2018
- **Multidisciplinarity**: Participated in "Etgar" program for outstanding students; worked on superconducting coplanar waveguide resonator used for quantum computing and developed a simulation of brain and neural activity of Mollusca.

Skills

Engineering Management: Owning strategic roadmaps and acting as a technical bridge between Research and Product; Cross-functional stakeholder management and vendor technical oversight.

AI & ML Systems: Building end-to-end Deep Learning solutions in PyTorch; specialized in Efficient CV models for edge devices and large-scale model-based image reconstruction.

Physical-Layer Architecture: Prototyping and characterizing advanced imaging systems, from microscopes to remote-sensing. Expertise in multi-modal imaging systems and numerical modeling (Fourier Optics, FDTD, etc.).

Optimization & Inverse Problems: Experience in Non-linear Optimization (LM) and System Calibration; solving complex Inverse Problems (Sensor Array Calibration, etc.).

Software & Tech Stack: High proficiency in Python (NumPy, SciPy, Pandas) and MATLAB for developing symbolic/numerical simulators. Experience with CI/CD infrastructure and version control.

Publications and Patents

Patent: N. G. (Apple), US Patent P64110US1 (Submitted), 2024.

Thesis: N. Goldfriend, MSc Thesis: Compressive Photo-Acoustic 3D True Optical Resolution imaging, 2021.

Honors

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

Volunteer Experience

Sunrise Association | *Volunteer*   *Young cancer patients support*

Ice Breaker

Travel: Mongolia, Isla-de-Pascua, Mountaineering, and Trekking.

Active Life: Swimming, Cycling, Running.

Creativity: Music play and theory, history, and more.

Languages

Proficiency: English (Fluent), Hebrew (Native), Arabic (Basic), Studies of Mandarin-Chinese.