

# Gal Winer, Ph.D.

“People who are serious about software should make their own hardware.”

— Alan Kay

## CONTACT

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## LINKS

🌐 linkedin.com/in/galwiner

📖 blog.winer.co.il

🐙 github.com/galwiner

## SKILLS

### 🔬 Core Physics

Optics, Numerical Simulation, Experimental Quantum Optics, Real-time Control, UHV systems, Laser Physics, Electro-optical systems, control-systems

### 🖥️ Simulation

MATLAB, Lumerical FDTD, Zemax

### 🔧 Physical design

KiCAD, Solidworks, Blender

### 📄 Programming languages

Python, Rust, TypeScript, Lua, React.

### 📦 Software system tools

Docker, Kubernetes

## LANGUAGES

English — Fluent

Hebrew — Native

My career spans the entire technical spectrum: from Science-published research in quantum optics at the Weizmann Institute to scaling high-volume hardware and enterprise-grade software. I specialize in bridging the gap between fundamental physics and global manufacturing, with a proven track record across Deep Tech startups and industry leaders like Apple and HP

I am an effective communicator with a deep passion for scientific outreach and education. I believe that the most complex systems, from new product inception to global mass-production lines are only as successful as the clarity with which they are communicated and taught.

## EXPERIENCE

### Optical System Engineering Technical Lead

May 2024 — Present

*Apple*

Herzliya, Israel

- Led the deployment of an in-factory system test station
- Technical lead for a mass-production test station used for the production of millions of units.
- Initiated, developed and deployed an expert-assistant system to analyse test station data during the bring up phase, empowering local teams and significantly speeding up the bring up phase.

### Quantum Software Engineer

Nov 2022 — Apr 2024

*Classiq*

Tel Aviv, Israel

- Developed a novel visual programming environment for quantum algorithms
- Initiated and taught a course for teaching quantum hardware to the developer community of the company.

### System Engineer and Libraries Team Lead

Jun 2020 — Nov 2022

*Quantum Machines*

Tel Aviv, Israel

- Early employee in a deep tech startup, I personally led the integration of the product into several new application domains leading to widespread recognition and adoption.
- Led a team of 5 PhD physicists in developing and researching cutting edge applications, including the **first demonstration** of real-time neural network feedback to the calibration of a superconducting qubit.

### Science writer

Oct 2015 — Jan 2020

*Davidson Institute*

Rehovot, Israel

- Published more than 30 popular science articles in top national news outlets and reaching wide exposure and recognition.

### Physicist

Oct 2012 — Jan 2015

*Applied Materials*

Rehovot, Israel

- Wrote a simulation tool to predict the performance of a defect detection scanning laser microscope. This tool is still in active use over a decade later.

### Summer Research Student

Jul 2012 — Sep 2012

*CERN*

Geneva, Switzerland

### QA Engineer

Aug 2010 — Jul 2011

*HP Software*

Shanghai, China

### System Tester

Sep 2008 — Aug 2010

*Prime Minister's Office*

Tel Aviv, Israel

## EDUCATION

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### Ph.D. Experimental Quantum Physics

2014 — 2020

*Weizmann Institute of Science*

Rehovot, Israel

Thesis: Quantum and nonlinear optics in quasi-one-dimensional systems.

- First student in a highly complex lab, I designed and constructed a system for generating quantum states of light with cold atoms.

### M.Sc. Experimental Condensed Matter Physics

2012 — 2014

*Tel Aviv University*

Tel Aviv, Israel

With Distinction. Thesis: The extraordinary Hall effect at Co/Pd Interfaces.

### B.Sc. Physics

2008 — 2011

*Tel Aviv University*

Tel Aviv, Israel

## PUBLICATIONS

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Lee Drori, **Gal Winer**, Ofer Firstenberg. "Quantum vortices of strongly interacting photons."

*Science*, 2023. DOI: 10.1126/science.adh5315

Ran Finkelstein, **Gal Winer**, Ofer Firstenberg. "Super-extended nanofiber-guided field for coherent interaction with hot atoms."

*Optica*, 2021. DOI: 10.1364/OPTICA.413372

**Gal Winer**, Amir Segal, Alexander Gerber. "Probing Co/Pd interfacial alloying by the extraordinary Hall effect."

*J. Appl. Phys*, 2015. DOI: 10.1063/1.4935023