

David Saykin

Electrical Engineer @ Apple | PhD in Physics from Stanford

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SUMMARY

My background bridges experimental physics and hardware engineering: high-precision lab work, large-scale data analysis, and numerical simulation, applied to consumer-electronics module development and validation. I bring a multidisciplinary toolkit—signal analysis, computational methods, and rapid prototyping—to cross-functional work spanning hardware, firmware, algorithms, and manufacturing.

EXPERIENCE

ELECTRICAL ENGINEER APPLE INC. Sept 2025 - Present

- Drove bring-up and validation of a new capacitive touch-sensor module through the engineering-validation build
- Stood up an offline validation station at the supplier site and authored its standard operating procedure
- Built end-to-end tester software in MATLAB and Python, including an encrypted supplier-site tool and a factory display-driver tester interface
- Extended a hardware-control tool with command-line drivers for input devices, production equipment, and measurement instruments
- Processed calibration datasets and built visualization scripts for the daily build report and supplier-site Gauge R&R data

RESEARCH ASSISTANT STANFORD UNIVERSITY 2019 - 2025

- Built an interferometer detecting polarization rotation at 50-nanoradian sensitivity to probe quantum properties of semimetals and superconductors at cryogenic temperatures
- Pioneered stress-enabled magneto-optical response detection; developed a novel method for in-plane magnetization via polarization rotation
- Discovered a spin-glass phase in nickelate superconductors; disproved speculated magnetic order in kagome superconductor CsV_3Sb_5 ; studied unconventional pairing in UTe_2
- Speaker at APS March Meetings 2023 and 2024

QUANTUM ENGINEERING INTERN BLEXIMO CORP. Summer 2022

- Designed, built, stress-tested, and automated a qubit readout setup that acquires and calibrates vector network analyzer data

VISITING RESEARCH ASSISTANT KARLSRUHE INSTITUTE OF TECHNOLOGY 2018

- Developed a Monte Carlo simulation (C, CUDA) for critical exponents and elastic coefficients of 2D membranes

SELECTED PUBLICATIONS

D. SAYKIN, C. FARHANG, ET AL. HIGH-RESOLUTION POLAR KERR EFFECT STUDIES OF CsV_3Sb_5 | PHYS. REV. LETT. 131, 016901 | 2023

DI S. WEI, D. SAYKIN, ET AL. INTERPLAY BETWEEN MAGNETISM AND SUPERCONDUCTIVITY IN UTe_2 | PHYS. REV. B 105, 024521 | 2022

D. SAYKIN, V. KACHOROVSKII, I. BURMISTROV, ET AL. PHASE DIAGRAM OF A FLEXIBLE TWO-DIMENSIONAL MATERIAL | PHYS. REV. RESEARCH 2, 043099 | 2020

LEADERSHIP

PRESIDENT STANFORD RUSSIAN-SPEAKING STUDENT ASSOCIATION 2021 - 2022

PEER REVIEWER JOURNAL OF EXPERIMENTAL AND THEORETICAL PHYSICS 2017 - 2019

SKILLS

HARDWARE/TOOLS

Lab electronics • Free-space & fiber optics • Data acquisition & DSP
• Hardware design • Automation
• Lithography • Machining

PROGRAMMING

Python (PyTorch, Tensor-Flow) • MATLAB • C • C++
• $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X} 2_{\epsilon}$ • HTML

SOFTWARE

SPICE • Git • KiCad • SolidWorks
• Mathematica • JIRA • Arduino
• Parallel computing (CUDA, OMP, MPI)

LANGUAGES

English (fluent) • Russian (native)

EDUCATION

STANFORD UNIVERSITY

PHD IN PHYSICS 2019 - 2025

SKOLKOVO INSTITUTE OF SCIENCE AND TECHNOLOGY

MSc IN THEORETICAL PHYSICS 2017 - 2019 |
GPA: 4.6/5

MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY

BSc IN PHYSICS & APPLIED MATH 2013 - 2017 | GPA: 4.9/5

AWARDS

PHYSICS OLYMPIAD OF RUSSIA

TWOFOLD AWARDEE 2010, 2011