Evander Szymanski-Oduya

Applied Physicist, Optical Metrology
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SUMMARY

Applied physicist with a PhD in atomic and optical physics and 5 years in industry R&D on laser interferometry and wafer metrology. Builds experiments and physics models in Python and COMSOL, has 4 granted patents and 9 papers, and turns lab prototypes into tools that production teams use.

EXPERIENCE

Senior Physicist, Metrology R&D — Flatiron Ridge Photonics

Boulder, CO · Jul 2021 – Present

- Designed a heterodyne interferometer that measures wafer flatness to 0.8 nm repeatability, now used on 14 production tools.
- Built a Python and NumPy analysis pipeline that processes 2 TB of sensor data a week and cut analysis time from 3 days to 4 hours.
- Modeled thermal drift in COMSOL and proposed a mount redesign that reduced measurement drift by 65% over an 8-hour run.
- Led a 4-person team through a design review and pilot with 2 customers, finishing 3 weeks ahead of the plan.
- Filed 6 invention disclosures, 4 of which became granted US patents.

Postdoctoral Research Fellow — Mesa Verde Institute for Quantum Optics

Albuquerque, NM · Sep 2019 – Jun 2021

- Built a laser cooling apparatus for rubidium atoms, reaching temperatures of about 10 microkelvin within 7 months.
- Wrote control software in Python and LabVIEW that ran 24-hour automated scans with 99% uptime.
- Co-authored 5 peer-reviewed papers and mentored 3 graduate students on optics alignment.

SKILLS

Physics: Optics and interferometry, laser physics, atomic physics, thermal modeling, noise analysis

Lab methods: Optical alignment, vacuum systems, lock-in detection, photodetectors, FPGA timing

Code and computing: Python, NumPy, SciPy, pandas, MATLAB, C++, LabVIEW, Git, Linux

Modeling: COMSOL Multiphysics, Zemax OpticStudio, Monte Carlo error analysis, finite element methods

CERTIFICATIONS

Laser Safety Officer training, 2022

Design for Six Sigma Yellow Belt, 2023

EDUCATION

PhD, Physics (Atomic, Molecular and Optical), University of Colorado Boulder, 2019

BS, Physics, University of Michigan, 2013

Fictional example by FindAJobAI: the person, employers and numbers are invented.