

Dr. Jake Rose

Gainesville, FL · +1-352-231-3217 · jakerose@duck.com · linkedin.com/in/jakerosenzweig · github.com/rosedj1

SUMMARY

Physicist and technical leader with 17 years of experience across particle physics, wildfire risk modeling, and software product development. Proven record of translating complex science into deployable products, building client trust, and driving cross-functional teams from concept to delivery.

PROFESSIONAL EXPERIENCE

Product Lead (promoted from Software Architect)
SkyTL

Apr 2024 – Dec 2025
Tampa, FL (Hybrid)

- Revived a defunct 5,000-line Python wildfire ember spread model (WindTL) within weeks of joining and led its deployment onto a Kubernetes/GCP architecture (Docker, CI/CD); became the company's flagship product.
- Served as primary client liaison for the U.S.'s largest private wildfire risk firm — built sufficient trust that the client requested real-time WindTL use on active wildfires and proactively proposed new features; developed 38 strategic business relationships with partners.
- Secured the company's first non-SBIR funding contract by developing a California fire department partnership; authored 13 fire behavior analyses and presented at the AMS FireWx1 2025 Conference and the Catastrophic Wildfire Prevention Consortium.
- Oversaw ML development (computer vision, physics-informed neural network); managed engineers and contractors via Jira/Agile; wrote technical proposals for Florida county governments.

Founder
DevelopYours (Freelance Consulting)

Sep 2023 – Dec 2024
Gainesville, FL

- Delivered data science and software consulting across 10+ sectors (neurology, finance, renewables, genetics); secured 7 client contracts, recruited 3 developers, and established 6 startup partnerships.
- Owned full business lifecycle: scope definition, contract negotiation, statements of work, payroll, and subcontractor management.

Project Manager
Fire Neural Network (FNN)

Jun 2022 – Jun 2023
Gainesville, FL

- Managed an ML project to segment wildfire burn scars in satellite imagery, achieving 80% Jaccard index.
- Led Agile workflows as liaison between data science leads and C-Suite; fostered relationships with stakeholders in Microsoft, NVIDIA, IBM, Esri, and Planet Labs.

Particle Physics Researcher
CMS Experiment, CERN / University of Florida

May 2017 – Aug 2022
Gainesville, FL

- Built statistical and kinematic correlation frameworks in C++/Python contributing to the world's most precise Higgs boson mass measurement; improved muon momentum resolution by 20%.
- Co-authored a peer-reviewed paper in the *European Physical Journal C*; submitted and monitored 1,000+ parallel jobs on global HPC clusters; presented formal results to the 4,000-member CMS collaboration.
- Conducted hardware longevity studies (Cathode Strip Chambers irradiated with Cs-137) replicating High-Luminosity LHC conditions, validating detector readiness using LabVIEW and Linux/Bash DAQ systems.

EDUCATION

Ph.D. in Physics (Particle Physics) — University of Florida, 2022

Dissertation: Precision Measurement of the Higgs Boson Mass and Search for Dilepton Mass Resonances in $H \rightarrow 4\ell$ Decays Using the CMS Detector at the LHC

M.S. in Physics — University of Florida, 2018

B.S. in Chemistry, Cum Laude — University of Florida, 2011

TECHNICAL SKILLS

Languages: Python, C++, Bash, HTML/CSS, Node.js, \LaTeX

Data & ML: pandas, NumPy, scikit-learn, ROOT, Vaex, ArcGIS, Jupyter, Grafana, CompVis, physics-informed neural nets

Cloud/DevOps: Google Cloud Platform, Kubernetes, Docker, CI/CD, HPC clusters

Geospatial: GeoPandas, Shapely, PyProj, GeoPy

Project Mgmt: Jira, Agile/Scrum, SOW drafting, vendor selection, B2B client management

AWARDS, CREDENTIALS & ADDITIONAL

Tom Scott Memorial Award — Distinction in research in experimental physics 2021

Charles F. Hooper Jr. Memorial Award — Distinction in leadership & teaching 2020

University-Wide Graduate Teaching Award — Excellence in teaching 2018

Wayne R. Bomstad II Memorial Award — Excellent teaching in the laboratory 2017

U.S. Citizen | Trained Type 2 Wildland Firefighter (FFT2) | Passionate about advancing nuclear energy and implementing agentic AI.

"The most important step one can take is the next."