

David (Dave) Farnham, PhD

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Hands-on AI and technology executive with 15+ years of experience applying machine learning, forecasting, optimization, and climate science to complex physical systems. Interested in shaping strategy, building products and multidisciplinary teams, and remaining close to technical execution across energy, climate risk, and other science-driven sectors.

Applied AI/ML | Responsible AI & Model Governance | Probabilistic Forecasting & Optimization | Energy & Climate Risk Analytics | Technical Product Strategy | Enterprise Solutions & Technical Sales | Multidisciplinary Leadership | Full Lifecycle Startup Leadership

Industry Experience

2025–Present  **VP of AI & Engineering** ClimateAi, San Francisco, CA (remote)

- Promoted through four roles to VP of AI & Engineering, leading a 12-person multidisciplinary organization across data science, AI/ML, software and geospatial engineering, product, and Earth sciences; hired all but one team member, managed seven direct reports, and achieved 100% voluntary retention among my hires.
- Owned technical strategy and R&D for AI/ML-driven forecasting and climate-risk products built on petabyte-scale geospatial and environmental datasets, translating probabilistic science into decision-support solutions for global enterprises while remaining hands-on in architecture, modeling, and code.
- Led technical sales and solutioning from discovery through close and delivery; helped close multiple enterprise deals, independently closed a mid-five-figure engagement, and played a primary role in securing both mid- and high-six-figure government contracts, subsequently leading the high-six-figure project.
- Converted bespoke customer solutions into scalable products and repeatable delivery workflows, using reusable technical frameworks and AI-assisted development to reduce delivery times from weeks to as little as hours while supporting dozens of customers.
- Represented the company on technology, product, and strategy with enterprise customers, government stakeholders, investors, academic partners, and prospective acquirers.
- Oversaw the development of an ROI framework and customer-facing tool linking ClimateAi's forecasting and risk insights to measurable financial and operational value.
- Built and maintained organizational processes and career frameworks that strengthened accountability, team development, and cross-functional execution.

2021–2025  **Earlier roles at ClimateAi:** Director of Data Science, 2024–2025; Lead Innovation Scientist, 2023–2024; Senior Innovation Scientist, 2021–2023

Energy & Climate Risk Experience

Research Positions

- **2018–2021 | Postdoctoral Research Scientist, Carnegie Science and Stanford.** Worked with Dr. Ken Caldeira and others on renewable energy reliability, wind and solar variability, power system adequacy, and weather-driven electricity demand.
- **2012–2018 | Graduate Researcher, Columbia University.** Worked with Dr. Upmanu Lall and collaborators on spatiotemporal climate and weather modeling, with applications to energy systems, water resources, infrastructure, and climate risk.

Energy & Climate Risk Experience (continued)

Selected Research

- “The Substantial Role of Weather Data in Consumer Spending Prediction: A Robust Machine Learning Assessment,” *Journal of Retailing and Consumer Services*, 2026.
- “Assessing Power System Disruptions and Associated Economic Impacts from Increasing Extreme Heat Events in Southeast Europe Using an Idealized Design Methodology,” World Bank, 2024.
- “Differential Effects of Climate Change on Average and Peak Demand for Heating and Cooling Across the Contiguous USA,” *Communications Earth & Environment*, 2023.
- “Geophysical Constraints on the Reliability of Solar and Wind Power Worldwide,” *Nature Communications*, 2021.
- “Robust Adaptation to Multiscale Climate Variability,” *Earth’s Future*, 2019.
- Authored or co-authored 50+ publications and conference contributions, cited 1,300+ times; see **Google Scholar** for the complete record.

Education

- 2018 **Ph.D., Water Resources and Climate Risk Engineering, Columbia University** Dissertation: *Identifying and modeling spatio-temporal patterns in high-dimensional climate and weather datasets with applications to water and energy resource management*
- 2015 **M.S., Water Resources and Climate Risk Engineering, Columbia University**
- 2012 **B.S., Civil Engineering, SUNY-Buffalo** Summa Cum Laude; Honors College
 B.A., Mathematics, SUNY-Buffalo Summa Cum Laude; Honors College

Selected Media Appearances & Coverage

Interviewed, quoted, or featured by *Bloomberg Intelligence*, *The Independent*, *WIRED*, *E&E News*, *AgTech-Navigator*, and *Scripps News*.