

Luke J. Zachmann

DATA SCIENCE, DATA ENGINEERING, TEAM LEADERSHIP AND MANAGEMENT

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Experience

Iggy

Remote

HEAD OF DATA SCIENCE

Dec 2022 – present

SENIOR DATA SCIENTIST

Apr 2022 – Dec 2022

- Led and managed the data science team at a seed-stage geospatial data startup, bridging both technical and business functions. Reported directly to founder / CEO.
- Helped ship the company's first product, and contributed to the development and delivery of several additional data products for major private equity and real estate firms
- Maintained cloud infrastructure and tooling for core data products (GCP, Python, SQL). Built and maintained an internal web application used to systematically identify, characterize, and resolve quality concerns.
- Additional direct technical contributions to the platform, including data pipelines, feature engineering, statistical support, compute, documentation, and customer experience

Conservation Science Partners

Truckee, CA

SENIOR SCIENTIST

2016 – 2022

LEAD SCIENTIST

2012 – 2016

- Co-founded the company. Raised ~\$3M in funding by federal department / agency partners (NASA, DoD, US Forest and Park Services, among others), as well as foundation (NSF, Pew Charitable Trusts) and industry partners (Microsoft). Helped grow the team to ~20 people. Directly managed / mentored eight scientists at various stages of career development.
- Led >15 large multi-year applied R&D projects. (Co)authored 15 peer-reviewed scientific articles, regularly communicated results and progress to non-technical stakeholders, and delivered >10 presentations at professional conferences. Noteworthy outcomes include:
 - Executive action by the Obama administration for land protections
 - Tools used by the DoD to prevent unintentional ignition of wildfires by training activities on US military bases
 - Near real-time estimates of river health in the Amazon, and forest disturbances in North America using AI models
 - Software used to specify and fit custom Bayesian models to monitoring (time series) data collected by several federal agencies, and used in legislatively mandated analysis and reporting processes
 - NASA-sponsored tooling used to improve discovery, accessibility, and interoperability of earth observation data
- Provided project oversight, managed interdisciplinary teams and cloud infrastructure (GCP, Azure), in addition to individual contributions to proposals, code (Python, R), and reports

Northern Arizona University

Flagstaff, AZ

SENIOR RESEARCH SPECIALIST

2010 – 2012

- Developed models and software required to analyze time series data from agency partners, and to map, estimate, and track costly environmental issues including the spread of invasive species and wildfire. Pioneered approaches used to measure the efficacy of massive, multi-million dollar landscape interventions using aerial and satellite imagery.
- Developed a robust sample design – and hired, onboarded, and managed 22 technicians – to collect ground truth data used to train and validate models of fire risk used by the DoD
- Managed on-prem data infrastructure, deployed models on an HPC cluster (via Slurm), and contributed to several publications

Technical skills

Coding

Python, R, SQL, Bash

Analytics

Machine learning, Bayesian statistics and probability distributions, sampling design, geospatial and time series analysis, forecasting

Technologies

Cloud data warehouses and platforms (GCP, Azure, Snowflake), CI/CD tools, Docker, Terraform, web- and app-building frameworks

Education

Utah State University

Logan, Utah

MS, ECOLOGY, DEPT. OF WILDLAND RESOURCES AND THE ECOLOGY CENTER

2008–2010

University of Minnesota

Morris, Minnesota

BA, ENVIRONMENTAL SCIENCE, DIV. OF SCIENCE & MATH; BA ENGLISH, DEPT. OF ENGLISH

2002–2006

WITH HIGH DISTINCTION