Nick Turman-Bryant

Lead Data Scientist & Solutions Architect

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Summary

I build AI applications that have to work outside the lab, with messy data, non-technical users and real deadlines. Lead data scientist and solutions architect at ICF, with a Ph.D. in Systems Science and earlier field research on sensor networks in East Africa. AWS Certified Solutions Architect – Associate.

Experience

ICF — Lead Data Scientist & Solutions Architect

Oct 2024 – Present

Front Office Strike Team, Office of the Enterprise CTO · Remote

- Delivered ten proof-of-concept deployments in six months against a goal of eight, for teams including Regulatory Policy & Economics, Europe and Asia, and DMX. One moved a policy simulation across tens of thousands of scenarios onto AWS, replacing a paid external subcontractor with cheaper, faster in-house capability that other teams wanted to reuse.
- Built in-house the tools that measure AI at ICF: an AI Reporting & Insights Dashboard (Go, React) that shows how AI tools are used and what they cost, and an agentic survey platform that measures AI-assisted coding adoption across the firm's developers for its Enterprise AI Strategy.
- Technical lead on a needs-assessment AI assistant for ICF's technical-assistance teams (Django, Next.js, Azure OpenAI), including its production handoff to a client's development team with documentation, onboarding and a reusable playbook.

ICF — Lead Data Scientist

2021 – Oct 2024

Innovation Services Team, Energy, Environment & Infrastructure

- Technical lead on DER Insight, ICF's distributed-energy planning platform for electric utilities, named Innovative Product of the Year for 2023 in ICF's Energy, Environment, and Infrastructure group. Led the System Planning MVP that forecasts load growth at the substation level, and covered a lead developer's parental leave while directing six developers across four modules.
- Sole developer of the building-sector model in CO2Sight, ICF's decarbonization planning platform: twelve scenario pathways across US census divisions, rebuilt on ComStock and ResStock building-stock data, used in Priority Climate Action Plans for Pennsylvania, Virginia, Hampton Roads and Knoxville.
- Built ICF's sales forecasting system: win-probability, quarter-close and revenue models in R, delivered through Azure Data Factory into Power BI, and used regularly by the C-suite and executive management for financial forecasting.

ICF — Data Scientist

Sep 2019 – 2021

DER Analytics, Client Services & Innovation

- Core developer of DER Insight from its first build. Replaced a piecemeal spreadsheet process with one repeatable workflow across eight modules, so each new study ran far faster than the first, including non-wires-alternative studies for four Michigan substations.
- Built an XGBoost model that predicted new-construction completions for a Massachusetts efficiency program to within about 27 units a month of a 600-unit average, and delivered it in Power BI. The work helped ICF win the client's recompete.
- Stood up, with cloud colleagues, a GDPR-compliant Azure Analysis Services instance that enabled Power BI Premium for a UK government energy programme. The project lead credited it with supporting the engagement's recovery.

SweetSense Inc. — Data Scientist

2015 – 2019

Portland, Oregon

- Put satellite and cellular sensors on more than 100 motorized boreholes across five northern Kenyan counties, with IBM Research and mWater, and used multilevel modeling of the data to show what kept water flowing through drought.
- Built a Super Learner model that estimated latrine fill levels from 40 sensors to route collections in Nairobi, predicting overflow with an AUROC of 0.90 and testing it against a control group.

Insight Data Science — Data Science Fellow 2019

- Built the Off-Grid Power Predictor, which estimates household solar output from the weather forecast. Gradient boosting improved predictions by 40% over analytical models (RMSE 39 W/m²).

Schatz Energy Research Center — Research Engineer 2013 – 2015

Arcata, California

- Ran more than 300 supply-chain surveys and interviews in Kenya for Lighting Global on quality assurance and pay-as-you-go financing, and tested solar products to IEC quality standards. First author on two market reports.

Education

Ph.D., Systems Science, Portland State University 2019

Graduate Certificate, Computer Simulation and Modeling, Portland State University 2017

M.S., Energy, Technology & Policy, Humboldt State University 2015

B.S., Mathematics (Phi Beta Kappa), University of Puget Sound 2005

Certifications

AWS Certified Solutions Architect – Associate (2025) · AWS Certified Cloud Practitioner (2023) · Microsoft Certified: Azure Data Scientist Associate (2022)

Skills

Languages	Python, R, SQL, TypeScript, Go
AI	Claude and Azure OpenAI APIs, OpenAI Agents SDK, RAG, agent evaluation, foundation-model fine-tuning
Cloud	AWS (SageMaker, Bedrock), Azure (Container Apps, OpenAI), Pulumi, Docker, GitHub Actions
Applications	Django, FastAPI, React, Next.js, PostgreSQL, Power BI
Modeling	XGBoost, time-series forecasting, multilevel modeling, Super Learner, geospatial analysis

Selected publications

Toilet Alarms: A Novel Application of Latrine Sensors and Machine Learning for Optimizing Sanitation Services in Informal Settlements. *Development Engineering 5, 2020.* doi.org/10.1016/j.deveng.2020.100052

Improved Drought Resilience Through Continuous Water Service Monitoring and Specialized Institutions. *Sustainability 11(11), 2019.* doi.org/10.3390/su11113046

Measuring Progress Towards Sanitation and Hygiene Targets. *Waterlines 37(3), 2018.* doi.org/10.3362/1756-3488.18-00008