

Matt Oremland, PhD

Director of Data Science

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PROFESSIONAL SUMMARY

Data science leader with 10+ years of experience building and deploying machine learning and AI solutions in highly regulated industries, including healthcare and pharmaceutical settings. Proven track record of developing production ML systems - from LLM-based classifiers to random forest models running in nightly pipelines - and translating complex analytical outputs into executive-level strategy. Experienced in leading cross-functional teams of data scientists and engineers, establishing data governance frameworks, and embedding AI capabilities into core business workflows. PhD in Mathematics with deep expertise in statistical modeling, predictive analytics, and responsible AI implementation.

PROFESSIONAL EXPERIENCE

Redica Systems

April 2025 – February 2026

Senior Director, Data Strategy & Analytics

Remote

- Designed and deployed a production LLM classifier (OpenAI API) on unstructured FDA regulatory text, assigning severity levels and weighted topic categories across the entire platform - owned prompt engineering, validation (confusion matrices), and cross-functional handoff to data engineering.
- Built risk-scoring predictive models from scratch in Python and Snowflake to quantify regulatory exposure for pharmaceutical clients including Eli Lilly and Merck.
- Architected reference data infrastructure to harmonize multi-source client data, resolving entity resolution challenges and enabling reliable analytics across disparate datasets.
- Developed Python-based visualization library for brand-specific analytics output, improving self-service insight delivery for client-facing teams.
- Presented AI/ML strategy and regulatory intelligence findings as a solo panelist at CHPA and ISPE industry conferences, communicating complex technical content to non-technical executive audiences.

Tidal Wave Analytics LLC

January 2025 – Present

Consulting Data Scientist

Saratoga Springs, NY

- Built and deployed a production random forest model for a building supply software client (Paradigm) to group sales quotes into projects using text and numerical features; model runs nightly in Databricks.
- Designed and implemented a RAG pipeline for a tax technology startup (Denari) using HuggingFace and PyTorch, ingesting IRS and state tax documentation as the retrieval corpus to generate filing recommendations.
- Delivered end-to-end ML engagements across multiple industries, managing stakeholder relationships from problem definition through production deployment.

Gilead Sciences

January 2023 – March 2025

Director, Insights, Data & Analytics (Medical Affairs)

Foster City, CA

- Led a team of 5 data scientists and analysts responsible for healthcare professional (HCP) and healthcare organization (HCO) analytics, supporting the Medical Affairs organization's engagement strategy.
- Built a centralized data lake consolidating HCP/HCO profiles from multiple data sources, establishing a single source of truth for downstream analytics and reporting.
- Defined and executed enterprise data and analytics strategy, serving as strategic advisor to senior leadership on data governance, vendor management, and platform architecture.
- Established formal data governance frameworks for healthcare reference data, including data requirements documentation and standardization protocols for vendor-sourced HCP/HCO data.

- Managed vendor relationships and cross-functional teams for data acquisition, cleansing, and standardization of healthcare reference profiles at enterprise scale.

Takeda Pharmaceuticals

May 2021 – December 2022

Associate Director, Digital & Data Science

Lexington, MA

- Led digital and data science group alongside statistical monitoring group, delivering predictive ML models for manufacturing and quality decision support.
- Built real-time digital dashboards for process and quality monitoring, enabling data-driven decisions on the manufacturing floor.
- Led cross-functional teams through semi-annual Annual Product Quality Review (APQR) cycles, synthesizing complex process analytics into executive-ready presentations.
- Authored data requirements documentation and served as Spotfire system administrator for the broader analytics organization.

Regeneron Pharmaceuticals

May 2016 – May 2021

Senior Process Data Scientist

Rensselaer, NY

- Developed predictive ML models for biopharmaceutical manufacturing including automated limit calculations, feed quantity optimization, and product quality prediction using ensemble methods, PLS, and PCA.
- Built automated data pipelines for ingestion, cleaning, and transformation of complex process data from upstream manufacturing systems.
- Presented modeling results and analytical insights to senior leadership and cross-functional stakeholders, translating technical findings into actionable process improvements.

Mathematical Biosciences Institute

2014 – 2016

Postdoctoral Research Fellow

Columbus, OH

- Developed agent-based computational models of biological systems, including fungal lung infection and viral transmission, applying multi-objective optimization using genetic and evolutionary algorithms.
- Published 5 peer-reviewed papers and 1 textbook chapter; presented research at national and international conferences.

EDUCATION

Doctor of Philosophy (PhD) in Mathematics

2014

Virginia Polytechnic Institute & State University

Dissertation: optimization and control methods for agent-based models in biological systems

SKILLS & TECHNOLOGIES

Programming & Platforms: Python • SQL • Snowflake • Databricks • AWS • Supabase

Machine Learning & AI: Random Forest • Ensemble Models • PLS • PCA • LLM Classification (OpenAI API) • RAG (HuggingFace / PyTorch) • Scikit-Learn • TensorFlow • Agent-Based Modeling

Analytics & Visualization: Spotfire • Sigma • Pandas • Custom Python Visualization • Dashboard Development

Leadership & Strategy: Team Management • Data Governance • Enterprise AI Strategy • Stakeholder Engagement • Vendor Management • Cross-Functional Leadership

PRESENTATIONS & PUBLICATIONS

- CHPA Regulatory, Scientific & Quality Conference (2025) — Solo Presenter: The Impact of AI on FDA-Regulated Industries
- ISPE Annual Meeting & Expo (2025) — Solo Presenter: Navigating FDA Compliance - Outsourcing Facility Inspections

- Redica Systems Webinar (2025) — Solo Presenter: From Reactive to Proactive: Leveraging AI/ML to Improve the Quality Unit