Matt Oremland, PhD

Data Analytics

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PROFESSIONAL SUMMARY

Strategic data leader with 9+ years of pharmaceutical industry experience driving business transformation through AI/ML implementation, predictive analytics, and enterprise data governance. Proven track record building high-performing teams and establishing data as the foundation for executive decision-making across manufacturing, quality, and medical affairs functions. Expert in transitioning organizations from reactive reporting to predictive intelligence systems, with deep expertise in real-time monitoring, automated anomaly detection, and regulatory compliance frameworks.

PROFESSIONAL EXPERIENCE

Redica Systems
2025 – Present

Sr. Director, Data Strategy & Analytics
Remote

- Led enterprise data strategy for pharmaceutical clients (Eli Lilly, Merck) focusing on regulatory intelligence and operational risk management, directly supporting executive resource allocation decisions
- Designed and deployed production LLM classification system using OpenAI API to automatically score FDA enforcement actions by severity and risk category, enabling proactive quality remediation across client portfolios
- Architected multi-source data integration platform on Snowflake consolidating fragmented regulatory data into single source of truth, establishing data governance standards for FDA-regulated environments
- Built automated risk-scoring models combining process data and regulatory intelligence to predict compliance vulnerabilities, transitioning clients from reactive response to predictive risk management
- Developed Python visualization framework enabling standardized, reusable analytics across client base, eliminating ad-hoc spreadsheet analysis
- Presented data-driven regulatory insights at CHPA and ISPE conferences, establishing thought leadership in AI applications for pharmaceutical quality

Tidal Wave Analytics LLC
2023 – Present

Consulting Data Scientist
Saratoga Springs, NY

- Delivered end-to-end ML solutions across multiple industries, building production random forest models for quote fingerprinting and project clustering on Databricks platform
- Designed and implemented RAG system using HuggingFace and PyTorch to automate tax compliance recommendations by querying unstructured regulatory documents, demonstrating expertise in NLP/GenAI for document intelligence
- Collaborated directly with VP-level stakeholders and data engineering teams to deploy nightly-running production models, establishing closed-loop data-to-action workflows

Gilead Sciences
2023 – 2025

Director, Data & Analytics (Medical Affairs)
Foster City, CA

- Built and led team of 5 managing enterprise healthcare reference data operations, establishing centralized data lake as single source of truth for HCP/HCO profiles across Medical Affairs organization
- Defined and executed enterprise data and analytics strategy serving as strategic advisor to senior leadership on data-driven decision frameworks for medical engagement and compliance
- Established comprehensive data governance frameworks including formal data requirements, quality standards, and vendor management protocols for healthcare reference data acquisition and standardization
- Developed real-time Spotfire dashboards tracking HCP/HCO interactions and affiliations, enabling Medical Affairs leadership to monitor relationship patterns and optimize resource allocation

- Managed cross-functional teams and external vendors to consolidate fragmented data sources, eliminating silos and implementing scalable data products

Takeda Pharmaceuticals
2021 – 2022
Associate Director, Digital & Data Science
Lexington, MA

- Led digital transformation initiatives deploying predictive ML models for manufacturing and quality decisions, transitioning organization from hindsight analysis to foresight-driven operations
- Directed semi-annual APQR (Annual Product Quality Review) process synthesizing cross-functional data into executive-level insights for product lifecycle management and regulatory compliance
- Built real-time monitoring dashboards providing automated anomaly detection for process and quality metrics, establishing early warning systems for deviation management
- Authored comprehensive data requirements specifications and led cross-functional teams to implement standardized data collection and reporting frameworks
- Administered enterprise Spotfire platform driving adoption of reusable, governed analytics tools across manufacturing operations

Regeneron Pharmaceuticals
2016 – 2021
Senior Process Data Scientist
Rensselaer, NY

- Pioneered predictive modeling program for biopharmaceutical manufacturing using ensemble methods, PLS, and PCA to forecast product quality and optimize production efficiency
- Built automated data pipelines ingesting, cleaning, and transforming manufacturing data, establishing foundation for scalable analytics and eliminating manual data preparation bottlenecks
- Developed automated limit calculation system and feed quantity optimization models that reduced cycle time variability and improved manufacturing yield through data-backed process control
- Presented analytics insights to senior leadership and cross-functional stakeholders, translating complex statistical models into actionable business recommendations
- Advanced from Data Scientist to Senior Data Scientist based on impact delivering measurable ROI through ML-driven process improvements

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

AI/ML & Predictive Analytics: Production ML Deployment • OpenAI API • Random Forest • Ensemble Models • PyTorch • HuggingFace • NLP/GenAI • Predictive Modeling • Anomaly Detection

Data Strategy & Governance: Enterprise Data Architecture • Single Source of Truth Design • Data Quality Standards • Regulatory Compliance • Data Requirements Authoring • Vendor Management

Cloud Platforms & Tools: Snowflake • Databricks • AWS • Sigma • Spotfire • Python • SQL • Pandas • Scikit-Learn

Leadership & Business Intelligence: Team Building • Stakeholder Engagement • Executive Reporting • Cross-Functional Collaboration • Change Management • Strategic Planning

PRESENTATIONS & PUBLICATIONS

- CHPA Quality and Manufacturing Meeting (2025) — Solo Presenter: Decoding FDA Enforcement Trends in OTC and Dietary Supplements
- ISPE Annual Meeting & Expo (2025) — Solo Presenter: Navigating FDA Compliance - Outsourcing Facility Inspections

- CHPA Regulatory, Scientific & Quality Conference (2025) — Solo Presenter: The Impact of AI on FDA-Regulated Industries
- Redica Systems Webinar (2025) — Solo Presenter: From Reactive to Proactive: Leveraging AI/ML to Improve the Quality Unit

PUBLICATIONS

- "Optimization and control of agent-based models in biology: a perspective" — Bulletin of Mathematical Biology, 2017
- "Agent-based models and optimal control in biology: a discrete approach" — Mathematical Concepts and Methods in Modern Biology (Elsevier), 2013 (Textbook chapter)