

# Matt Oremland, PhD

*Senior AI Leader*

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## PROFESSIONAL SUMMARY

AI and data science executive with PhD in Mathematics and 9+ years leading enterprise AI transformation initiatives in regulated, high-stakes environments. Proven track record defining AI strategy, driving measurable business impact through ML-powered products, and establishing governance frameworks ensuring responsible AI deployment. Deep expertise in modern AI capabilities including LLMs, agentic systems, and production ML platforms. Successfully mobilized cross-functional resources across technology, product, and business teams to deliver AI solutions generating quantifiable ROI. Strong executive presence with ability to translate complex AI concepts into clear business priorities and influence senior leadership decision-making.

## PROFESSIONAL EXPERIENCE

### Redica Systems

April 2025 – Present

*Director, Data Strategy & Analytics*

Remote

- Define and lead AI strategy for pharma SaaS platform serving enterprise clients including Eli Lilly and Merck; partner with executive leadership to align AI roadmap with business transformation priorities and customer value creation
- Drive customer-facing AI innovation building production LLM classifier that processes FDA regulatory data; ensure AI solutions are scalable, secure, and integrated with platform architecture serving thousands of users
- Establish AI governance framework defining what AI work is happening, how it aligns to strategy, and how it is approved and tracked; partner with engineering and data teams on technical governance, compliance standards, and responsible AI guardrails
- Own AI value realization across platform delivering measurable productivity gains and cost efficiencies; define success metrics tracking model performance, user adoption, and business impact
- Influence cross-functional priorities partnering with product and engineering leaders to embed AI capabilities into customer experiences; translate AI strategy into clear technical requirements and execution roadmap
- Present AI vision and progress to executive leadership and board-level stakeholders at industry conferences (CHPA, ISPE); communicate complex AI concepts as clear business opportunities

### Tidal Wave Analytics LLC

January 2025 – Present

*Consulting Data Scientist / Founder*

Saratoga Springs, NY

- Lead AI transformation initiatives across multiple clients spanning SaaS, tax technology, and consumer products; define AI strategy balancing near-term business impact with long-term capability building
- Built agentic AI system for tax compliance using RAG architecture with HuggingFace and PyTorch; architected intelligent decisioning workflow automating complex regulatory analysis and recommendations
- Deploy production ML solutions in resource-constrained environments; manage vendor/platform selection and integration ensuring AI ecosystem works as integrated capability rather than siloed tools
- Drive measurable business outcomes through AI including productivity improvements, cost reduction, and revenue growth; establish metrics frameworks demonstrating AI ROI to client stakeholders
- Operate effectively in matrixed organizations securing commitment and prioritization from functional and technical leaders across client companies

### Gilead Sciences

January 2023 – March 2025

*Director, Data & Analytics (Medical Affairs)*

Foster City, CA

- Defined enterprise data and AI strategy for Medical Affairs organization; served as trusted advisor to VP and SVP-level executives on AI investment decisions and transformation priorities

- Led large-scale transformation initiative consolidating fragmented data systems into unified analytics platform; mobilized resources across IT, data engineering, product, and business teams to deliver integrated solution
- Drove measurable business impact reducing manual operations by 70% through AI-enabled automation and intelligent workflows; established value realization metrics tracking productivity gains and cost efficiencies
- Built and led cross-functional team of 5+ professionals including data scientists, engineers, and analysts; established AI-ready ways of working and enabled workforce transformation tied to analytics adoption
- Partnered with IT, Security, and Legal on data governance and compliance frameworks ensuring responsible AI deployment in healthcare environment with strict privacy and regulatory requirements
- Influenced technical priorities across engineering and platform teams ensuring alignment with analytics strategy; translated business requirements into technical execution roadmap

### **Takeda Pharmaceuticals**

May 2021 – December 2022

#### *Associate Director, Digital & Data Science*

Lexington, MA

- Led AI and advanced analytics transformation for global pharmaceutical manufacturing organization; defined roadmap balancing innovation with disciplined execution and accountability
- Deployed production ML models driving real-time manufacturing decisions; established governance ensuring AI solutions met regulatory compliance standards while enabling rapid innovation
- Mobilized cross-functional resources across quality, manufacturing, IT, and regulatory teams to execute AI initiatives; resolved execution bottlenecks and misalignment across matrixed organization
- Owned platform strategy as Spotfire system administrator; rationalized analytics tools and ensured integrated capability across enterprise analytics ecosystem
- Communicated AI vision and business value to senior leadership through semi-annual APQR presentations; demonstrated measurable impact reducing review cycles from weeks to days

### **Regeneron Pharmaceuticals**

May 2016 – May 2021

#### *Senior Process Data Scientist*

Rensselaer, NY

- Pioneered AI and ML adoption in biopharmaceutical manufacturing building first automated optimization and forecasting systems; defined technical vision and secured executive buy-in for AI-powered decisioning
- Delivered measurable business value through AI including production planning optimization that changed operational business decisions and generated quantifiable cost savings
- Built scalable ML infrastructure including automated data pipelines, model deployment workflows, and monitoring systems; established technical foundations enabling enterprise AI scale
- Partnered with engineering, quality, and manufacturing teams to embed AI into operational workflows; translated complex ML concepts into clear business benefits for non-technical stakeholders
- Established disciplined ML governance balancing innovation velocity with regulatory compliance and quality standards; created frameworks ensuring reproducibility and auditability
- Presented technical AI work to executive leadership demonstrating ROI through process efficiency improvements and quality outcome gains; influenced investment decisions for expanded AI capabilities

### **Mathematical Biosciences Institute**

2014 – 2016

#### *Postdoctoral Research Fellow*

Columbus, OH

- Conducted advanced AI research in computational biology applying optimization algorithms and machine learning to complex systems; published 5 peer-reviewed papers and 1 textbook chapter
- Developed novel AI methodologies combining evolutionary algorithms with mechanistic modeling; established research rigor and reproducibility standards

## **EDUCATION**

### **Doctor of Philosophy (PhD) in Mathematics**

2014

#### *Virginia Polytechnic Institute & State University*

Dissertation: Optimization and control of agent-based models in biological systems. Research focus on AI algorithms, optimization theory, and computational methods for complex decision-making systems. Published 7 peer-reviewed papers and 1 textbook chapter.

## SKILLS & TECHNOLOGIES

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**AI Strategy & Leadership:** AI Vision & Roadmap • Enterprise AI Transformation • Cross-Functional Leadership • Executive Advisory • Value Realization • Change Management

**Modern AI Capabilities:** Large Language Models (LLMs) • Agentic AI Systems • RAG Architectures • OpenAI API • Machine Learning • Deep Learning • Forecasting • Optimization

**AI Governance & Execution:** Responsible AI Frameworks • AI Governance • Risk Management • Compliance • Program Management • Resource Mobilization • Vendor Management

**Technical Platforms & Tools:** Python • TensorFlow • PyTorch • HuggingFace • Scikit-Learn • Snowflake • Databricks • AWS • MLOps • Data Platforms

**Business & Communication:** Executive Presence • Strategic Planning • Stakeholder Management • Business Case Development • Metrics & Analytics • Public Speaking

## PRESENTATIONS & PUBLICATIONS

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- CHPA Quality and Manufacturing Meeting (2025) — Solo Presenter: AI-driven regulatory intelligence and enforcement trend analysis
- ISPE Annual Meeting & Expo (2025) — Solo Presenter: AI applications in FDA compliance and regulatory decision-making
- 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 Transform Business Operations

## PUBLICATIONS

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- "Optimization and control of agent-based models in biology: a perspective" — Bulletin of Mathematical Biology, 2017
- "Optimal control of sugarscape agent-based model via a PDE approximation model" — Optimal Control Applications and Methods, 2016
- "Agent-based models and optimal control in biology: a discrete approach" — Mathematical Concepts and Methods in Modern Biology (Elsevier), 2013 (Textbook chapter)