Mark Derdzinski

Director, AI/ML Engineering | Model Evaluation & Data Systems

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PROFILE

Engineering leader with 8+ years of experience building and scaling ML systems, evaluation frameworks, and data infrastructure for production AI. Proven track record leading model evaluation, testing, and data curation efforts from research through production in high-stakes environments. Experienced people manager skilled at building shared evaluation standards and scalable data systems with strong cross-functional alignment.

Select Highlights: Built FDA-reviewed evaluation and testing frameworks; deployed reproducible eval pipelines for >100k users; scaled evaluation from research to production; led >$3M in academic research partnerships.

EDUCATION

Ph.D. Physics University of California San Diego *June 2018*
B.A. Physics and Mathematics University of California Berkeley *Dec. 2011*

PROFESSIONAL EXPERIENCE

Dexcom

Director, AI/ML Engineering *March 2026 - Present*
Sr. Manager, Data Products & AI *Sept. 2023 - March 2026*

- ◇ Leading full-stack AI engineering function spanning AI, backend, frontend, and mobile development
- ◇ Managing AI Research team, developing proprietary AI benchmarks and foundation models for biosensing
- ◇ Partnered with Product, Regulatory, and Quality teams to define AI evaluation criteria and delivery roadmap
- ◇ Led evaluation and launch of the first regulated GenAI platform in a commercially-available biosensing device
- ◇ Deployed evaluated AI agents to production, including multimodal models scaling to >100,000 global users
- ◇ Created AI alignment and monitoring program, defining safety metrics and eval cycles for real-world applications
- ◇ Led >$3M of academic research agreements, including partnership scope, funding contracts, and student support
- ◇ Founded and scaled Dexcom's AI internship program, establishing onboarding, mentorship, and talent pathways
- ◇ Drove testing strategy creation, including internal alignment with executives and formal reviews with the FDA
- ◇ Operationalized LLM evaluation strategy emphasizing robustness, accuracy, reproducibility, and safety
- ◇ Published GenAI research on state-of-the-art differentially-private generative adversarial networks (DP-GANs)

Sr. Manager, Data Science *Sept. 2022 - Sept. 2023*
Manager, Data Science *Nov. 2020 - Sept. 2022*

- ◇ Managed the Experience Individualization Team, including scoping, prioritization, and resourcing of new projects
- ◇ Authored and oversaw new data science hiring protocol, doubling and diversifying the global data science team
- ◇ Launched A/B experimentation platform and process, increasing user engagement through targeted outreach
- ◇ Created an organization-wide analytics request process, delivering >100 analyses and accelerating market access
- ◇ Presented data science portfolio and long-term roadmap to Board of Directors, informing organizational strategy
- ◇ Executed data use agreements with multiple universities, expanding IP portfolio through research partnerships

Staff Data Scientist *March 2020 - Nov. 2020*
Sr. Data Scientist *May 2018 - March 2020*

- ◇ Oversaw launch of new customer onboarding experience, addressing critical CX gaps in >1M new user journeys
- ◇ Organized user data and marketing system integration, leading technical contributors in R&D, IT, and Marketing
- ◇ Automated SQL pipelines for measuring product engagement, utilized by data practitioners in multiple teams
- ◇ Published real-world data insights in >10 manuscripts and conference proceedings, used in marketing claims

University of California San Diego

Doctoral Student Researcher *Sept. 2013 - May 2018*

- ◇ Supported data operations (including processing and storage) for six analysis teams, used in multiple publications
- ◇ Built shared frameworks in C++ and Python for processing petabytes of data with HTCondor and Hadoop
- ◇ Employed Monte-Carlo methods for background event simulation and likelihood analysis for signal detection

TECHNICAL SKILLS

Model Evaluation, Benchmark Design, ML Testing & Validation, Data Curation, Reproducibility & Quality Metrics, LLM Evaluation, AI Alignment, Time Series Analysis, Deep Learning, Statistics, Experimentation, Offline & Online Metrics, Feature Engineering, Monte Carlo Simulation, High-Throughput Computing, Data Architecture, Research Design, Survey Instrumentation, Public Speaking, Sprint Planning, Python, SQL, C++, Cloud Platforms

SELECT PATENTS AND PATENT APPLICATIONS

ML Techniques for Optimized Communication with Users of a Software Application, US-12289279-B2 (29 April 2025), US-20250240261-A1 (24 July 2025)

Glucose Prediction using Machine Learning and Time Series Glucose Measurements, US-12205718-B2 (21 Jan. 2025), US-12354742-B2 (8 July 2025)

Continuous Glucose Monitoring Follower and Social Support Enhancements, US-20240203584-A1 (20 June 2024)

Determining User-Specific Hyperparameters for Decision Support Models, US-20240194341-A1 (13 June 2024)

Determining Decision Support Outputs Using User-Specific Analyte Level Criteria, US-20240172999-A1 (30 May 2024)

ML Models for Data Development and Providing User Interaction Policies, US-20230186115-A1 (15 June 2023)

Glucose Monitoring Over Phases and Corresponding Phased Information Display, US-20230133195-A1 (4 May 2023)

Glycemic Impact Prediction For Improving Diabetes Management, US-20230136188-A1 (4 May 2023)

Behavior Modification Feedback For Improving Diabetes Management, US-20230140143-A1 (4 May 2023)

Glucose Level Deviation Detection, US-20230134919-A1 (4 May 2023)

Feedback For Improving Diabetes Management, US-20230135175-A1 (4 May 2023)

Ranking Feedback For Improving Diabetes Management, US-20230138673-A1 (4 May 2023)

Systems for Determining Similarity of Sequences of Glucose Values, US-20220361779-A1 (17 Nov. 2022)

Meal and Activity Logging with a Glucose Monitoring Interface, US-20220202319-A1 (30 June 2022)

User Interfaces for Glucose Insight Presentation, US-20220202320-A1 (30 June 2022)

Glucose Measurement Prediction Using Stacked Machine Learning Models, US-20210378563-A1 (9 Dec. 2021)

Hypoglycemic Event Prediction Using Machine Learning, US-20210338116-A1, US-20210343402-A1 (4 Nov. 2021)

SELECT PUBLICATIONS AND CONFERENCE PROCEEDINGS

From Prototype to Production: Evaluation Strategies for Agentic Applications, DeepLearn Lecture (July 2025)

GlucoSynth: Generating Differentially-Private Synthetic Glucose Traces, Lamp J., Derdzinski M., Hannemann C., van der Linden J., Feng L., Wang T., and Evans D., NeurIPS Poster Presentation (Nov. 2023)

AI in the Workplace: Privacy Impacts & Risks, Panel Presentation, IAPP San Diego KnowledgeNet Panel (27 Sept. 2023)

GlucoSynth: Generating Differentially-Private Synthetic Glucose Traces, Lamp J., Derdzinski M., Hannemann C., van der Linden J., Feng L., Wang T., and Evans D., arXiv:2303.01621 (March 2023)

Patient Engagement with Dexcom G6: Does Use of More Features Lead to Better Patient Outcomes?, Oral Presentation, Advanced Technologies & Treatments for Diabetes (ATTD), February 2020

Sharing of Real-Time Continuous Glucose Monitoring Data by Adults: Associations with Device Utilisation and Glycaemic Parameters, Poster Presentation, European Association for the Study of Diabetes (EASD), September 2019

Sharing of Real-Time Continuous Glucose Monitoring Data Improves Device Utilization and Glycemic Parameters in Youth, Oral Presentation, Advanced Technologies & Treatments for Diabetes (ATTD), February 2019

Real-World Hypoglycemia Avoidance with a Predictive Low Glucose Alert Does Not Depend on Frequent Screen Views, Oral Presentation, Advanced Technologies & Treatments for Diabetes (ATTD), February 2019