Mark Derdzinski

AI/ML Engineering Leader | Regulated AI Deployment & Health Sciences

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PROFILE

Engineering leader with 8+ years deploying production AI systems in regulated health and life sciences environments. Proven track record leading end-to-end AI implementation, from evaluation and compliance through production launch, across FDA, HIPAA, and global regulatory frameworks. Experienced people manager skilled at building high-performing teams and driving cross-functional delivery with Product, Regulatory, Quality, and executive stakeholders.

Select Highlights: Driving GenAI feature development for Stelo, including an AI Health Coach with safety strategy reviewed directly with the FDA; leading Dexcom's AI software development lifecycle; deployed the first regulated GenAI platform in glucose biosensing; scaled AI features to 100k+ users globally; led >$3M in 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*

- ◇ Directing full-stack AI engineering function spanning AI, backend, frontend, and mobile development
- ◇ Managing AI Research team developing proprietary benchmarks and foundation models for regulated biosensing
- ◇ Driving international regulatory strategy and localization for AI features across multiple global platforms
- ◇ Leading GenAI launch for Stelo (FDA Class II), including an AI Health Coach at million-per-day scale
- ◇ Led end-to-end deployment of the first regulated GenAI platform in a commercial biosensing device
- ◇ Deployed evaluated multimodal AI agents to production, including models scaling to >100,000 users
- ◇ Partnered with Product, Regulatory, Quality, and Legal to define compliance criteria and deployment roadmap
- ◇ Operationalized LLM eval, alignment, and safety monitoring; reviewed AI safety strategy directly with the FDA
- ◇ Led >$3M in academic research agreements, including partnership scope, funding, and student support
- ◇ Founded Dexcom's AI internship program, establishing onboarding, mentorship, and talent pathways
- ◇ 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
- ◇ Delivered >100 cross-functional analyses, accelerating regulatory submissions and 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
- ◇ 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

Enterprise AI Deployment, HIPAA, GxP, FDA Compliance, Regulatory Strategy, Stakeholder Management, Cross-functional Delivery, 0-to-1 Product Development, Generative AI, Large Language Models (LLM), LLM Evaluation, AI Alignment, Prompt Engineering, Deep Learning, Statistics, Experimentation, A/B Testing, Risk Assessment, Responsible AI, People Management, Data Architecture, Python, SQL, C++, Cloud Platforms, Public Speaking

SELECT PATENTS AND PATENT APPLICATIONS

User Interfaces for Glucose Insight Presentation, US-12533052-B2 (27 Jan. 2026)

Systems for Determining Similarity of Sequences of Glucose Values, US-12502103-B2 (23 Dec. 2025)

Glucose Measurement Prediction Using Stacked Machine Learning Models, US-12390131-B2 (19 Aug. 2025), US-20250344967-A1 (13 Nov. 2025)

Glucose Prediction using Machine Learning and Time Series Glucose Measurements, US-12354742-B2 (8 July 2025), US-20250316375-A1 (9 Oct. 2025)

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

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

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