

MARK DERDZINSKI

Director, AI/ML Engineering | AI Research & Production Systems

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🌐 derdzinski

PROFILE

AI/ML engineering leader with 8+ years building research and production systems in regulated health. Leads work across AI/ML Research, Safety and Alignment, and Applied AI/ML Engineering, from metabolic foundation models through consumer product launch and monitoring. Develops engineers from internships through Principal and frontline leadership, and aligns technical, medical, regulatory, quality, product, legal, and executive teams.

Select Highlights: Built an AI Research program developing metabolic foundation models, proprietary benchmarks, and multimodal sensing methods; launched a production AI Health Coach and the first regulated GenAI platform in glucose biosensing; scaled AI products to >100,000 users; led >\$3M in research partnerships and accelerated AI release cycles 2x.

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

- ◇ Lead roadmap and delivery across AI/ML Research, Safety & Alignment, and Applied AI/ML Engineering
- ◇ Develop contributors from interns and junior engineers through senior and Principal ICs and frontline managers
- ◇ Lead AI Research developing metabolic foundation models, benchmarks, and multimodal sensor fusion
- ◇ Led >\$3M in academic research agreements covering scope, funding, and student support
- ◇ Launched the [Stelo](#) AI suite (FDA Class II), including an AI Health Coach reviewed directly with the FDA
- ◇ Led the [first regulated GenAI platform](#) in glucose biosensing from system design through commercial deployment
- ◇ Deployed [VLMs](#) for meal identification, macronutrient prediction, and metabolic insights to >100,000 users
- ◇ Built [offline and online LLM/VLM evaluators](#) for premarket validation and postmarket surveillance
- ◇ Led cross functional teams creating clinical evaluation sets and validating graders against medical expert scoring
- ◇ Shipped agent tracing, automated reporting, and human review workflows that refine criteria from field behavior
- ◇ Revised the AI/ML software development lifecycle across functions, accelerating release cycles 2x
- ◇ Drove international regulatory strategy and localization for AI features across multiple global platforms

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
- ◇ Presented data science portfolio and long-term roadmap to Board of Directors, informing organizational strategy

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
- ◇ 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

AI/ML Organization Leadership, People Management & Talent Development, AI Research, Metabolic Foundation Models, Applied AI/ML Engineering, LLM & VLM Evaluation, Automated Grading, Clinical Evaluation Sets, Grader Validation & Human Alignment, Offline & Online Evaluation, Premarket Validation & Postmarket Surveillance, Active Filtering, Human Review, Agentic Systems, AI Alignment & Guardrails, Responsible AI, Multimodal Sensor Fusion, Regulatory Strategy, FDA & GxP Compliance, Product Development, Experimentation, Python, SQL, C++, Cloud Platforms, Public Speaking

SELECT PATENTS AND PATENT APPLICATIONS

Glucose Level Deviation Detection, [US-12629059-B2](#) (19 May 2026), [US-20260191435-A1](#) (9 July 2026)

Generative Artificial Intelligence Validation Process, [WO-2026090443-A1](#) (30 April 2026)

User Interfaces for Glucose Insight Presentation, [US-12533052-B2](#) (27 Jan. 2026), [US-20260102082-A1](#) (16 April 2026)

Systems for Determining Similarity of Sequences of Glucose Values, [US-12502103-B2](#) (23 Dec. 2025), [US-20260083358-A1](#) (26 Mar. 2026)

Artificial Intelligence System for Managing Analyte Concentrations, [WO-2026039134-A1](#) (19 Feb. 2026)

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)

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