
Marek Sirendi

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As an innovative healthcare institution, you need more distinctive and powerful products. My AI technology and business background will help you meet financial expectations, have a clear AI plan for your company, save lives, save time and money, and produce successful AI projects.

As a Nobel Peace Prize contributor and MIT Innovator Under 35, excellence in healthcare is at the forefront of my goals. With proven success in healthcare and business, I can augment your team's existing competencies and make sure you and your company are pointed toward success.

Healthcare Expertise

- ◆ \$134.4M successful seed funding for AI technology
- ◆ Building AI models for healthcare and their deployment
- ◆ Data science and machine learning including prediction, forecasting, interpretability and explainability, and causal inference
- ◆ Expert-level knowledge of statistics, probability, modelling, and simulation
- ◆ Leadership, scaling, and company & stakeholder management
- ◆ Building and guiding teams, recruitment, hiring, mentoring
- ◆ Communication and presentation of technical concepts to diverse audiences

Skills

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|--|--------------------------------------|--|
| ◆ AI Leadership & Entrepreneurship | ◆ Retrieval Augmented Generation | ◆ Cloud Computing, Data Warehousing & Deployment |
| ◆ AI Explainability and Interpretability | ◆ Transformers | ◆ AWS |
| ◆ OpenAI CLI | ◆ Statistical Modeling and Inference | ◆ GCP |
| ◆ Chain-of-thought Prompting | ◆ Time Series Analysis | ◆ Azure |
| ◆ Instruction Tuning and Fine Tuning | ◆ Predictive Modeling | ◆ MLOps |
| ◆ LangChain | ◆ Data Mining | ◆ Databricks |
| ◆ HuggingFace | ◆ Model Evaluation | ◆ Delta Lake |
| ◆ Natural Language Processing | ◆ Feature Selection | ◆ Spark |
| ◆ Vector Databases | ◆ Dimensionality Reduction | ◆ NLFlow |
| ◆ Semantic Search | ◆ Privacy-Preserving Technologies | ◆ Containerization |
| | ◆ Federated Learning | ◆ Virtual Private Clouds |
| | | ◆ Infrastructure as code |

Experience

2022 - PRESENT

Head of AI | Ascertain, a generative AI company, New York, NY

Obtained \$11M of seed money building products around novel generative AI use cases. Hired the Product, Engineering and AI teams for this purpose.

- **Successful seed funding round worth \$11M:** Built products around core generative AI use cases such as Q&A with retrieval augmented generation, predictive analytics with fine-tuned models, artefact generation, and AI chatbots
- **Created AI foundation for joint venture:** Created a secure virtual private cloud with an infrastructure as code implementation for machine learning development and deployment in collaboration with Northwell Health
- **Made seven key company hires:** Built the Product, Engineering, and AI departments from scratch
- **Developed best-in-class maternal risk stratification algorithm** presented as a plenary talk at the Society for Maternal-Fetal Medicine, the premier conference in obstetrics. The algorithm has a positive likelihood ratio of 15, enabling far more accurate identification of women at risk of developing preeclampsia over standard clinical risk factors

2021 - PRESENT

Operating Partner | Aegis Ventures, New York, NY

Developed the technical roadmap for a shared virtual private cloud between Aegis Ventures and Northwell Health that **led to the foundation of a \$100M joint venture between the health system and our company**. Proceeded to establish the virtual private cloud that is supporting multiple investments as well as Ascertain, our generative AI company.

- ◆ **\$100M joint venture between Aegis Ventures and Northwell Health:** A result of my technical negotiations
- ◆ **\$12M seed investment into Optain, an AI retinal imaging company:** Led due diligence across technology, intellectual property, and regulatory strategy for multiple series A investments in digital health companies as part of a global joint ventures' strategy
- ◆ **Successful seed funding round worth \$8.4M:** Supported the development of the AI strategy, and built AI prototypes for Caire, a joint venture between Aegis Ventures and Northwell Health, supporting the launch of Upliv Health, a virtual health company targeting menopause

2020 - 2021

Chief Technology Officer & Co-Founder | Transformative, New York, NY

Built an intellectual property portfolio covering patents in multiple jurisdictions. Hired and managed a team of 7 individuals across AI, product, quality assurance, and engineering.

- ◆ Authored 5 patents (1 granted, 4 pending) in healthcare applications of machine learning
- ◆ Led a 7-strong ambitious team in transforming healthcare
- ◆ Led ISO 13485, 14971, IEC 62304 and MDR-compliant software development

2016 - 2020

Chief Executive Officer & Co-Founder | Transformative, London

Co-founded an AI startup focused on addressing the low survival rates following sudden cardiac arrest. Built the first prototype of the product leading to a successful seed round of \$3M. Negotiated and entered into 2 joint ventures across Estonia and South Korea.

- ◆ Launched a VC-backed startup and created a patented AI algorithm to predict cardiac arrest
- ◆ Raised \$3M with 5 rounds of venture capital funding
- ◆ Wellcome Trust Innovator Award winner
- ◆ Led collaborations with large corporates in the life sciences' sector
- ◆ Built company as top 1% of applicants to be selected to Europe's top accelerator
- ◆ "Top 3" Entrepreneur First venture according to TechCrunch

2012 - 2016

Fellow | CERN

Contributed to the discovery of the Higgs boson at the LHC leading to a Nobel Prize in 2013.

Subsequently, worked on carrying out precise measurements of W and Z bosons on the LHCb experiment.

- ◆ Leader on the Large Hadron Collider experiment
- ◆ Led review of measurement of the effective weak mixing angle, a fundamental parameter of the Standard Model of Particle Physics

Education

2012 - 2016

Doctor of Philosophy in Physics, University of Cambridge, Cambridge, United Kingdom

- ◆ Contributed to the discovery of the Higgs boson at the LHC leading to a Nobel Prize in 2013
- ◆ Award-winning research in experimental high energy physics focusing on the analysis of Large Hadron Collider data and the Monte Carlo simulation of physics processes
- ◆ Performed world's single most precise test of lepton universality

Patents

- ◆ Machine Learning: Analysis of Cardiac Data (US2020/0008696, PCT/GB2019/052223), 2018
- ◆ Feature Optimization: Prediction of Cardiac Events (GB1703662.5, PCT/GB2018/050580, WO 2018/162901), 2017

Publications

Machine Learning

- ◆ Utilizing Machine Learning and Electronic Medical Records to Predict Postpartum Preeclampsia (AJOG, Volume 228, Issue 1, Supplement , S615-S616), 2023
- ◆ Deep learning algorithm on single-lead ECG to stratify risk of shockable cardiac arrest among hospitalized patients (28th Nordic-Baltic Congress of Cardiology), 2023
- ◆ Advance Prediction of Ventricular Tachyarrhythmias using Patient Metadata and Multi-Task Networks ([arXiv:1811.12938](https://arxiv.org/abs/1811.12938), NeurIPS Workshop on ML for Health), 2018

Physics

- ◆ Measurement of forward $W \rightarrow e\nu$ production in pp collisions at $\sqrt{s} = 8$ TeV ([arXiv:1608.01484](https://arxiv.org/abs/1608.01484), JHEP 10 2016 030), 2016
- ◆ Measurement of the forward Z boson production cross-section in pp collisions at $\sqrt{s} = 13$ TeV ([arXiv:1607.06495](https://arxiv.org/abs/1607.06495), JHEP 09 2016 136), 2016
- ◆ Electroweak physics in the forward region ([arXiv:1608.06906](https://arxiv.org/abs/1608.06906), MCnet-16-37), 2016
- ◆ 297 papers in the LHCb collaboration

Accomplishments & Awards

Entrepreneurship

- ◆ MIT Innovators Under 35 honoree, 2019
- ◆ Pistoia Alliance Audience Choice Winner, 2017
- ◆ "Top 3" Entrepreneur First venture according to TechCrunch, 2017

Research

- ◆ National award for doctoral research in the field of natural sciences, 2016
- ◆ Marie Curie Fellowship, 2014
- ◆ Higgs-Osborn Prize for exceptional ability in experimental physics, 2011

- ◆ Dean's List for outstanding scholarship, 2011
- ◆ Certificate of Merit for excellent exam results, 2008-2009 and 2009-2010
- ◆ 1st place at the Estonian Research Olympiad, 2007

Awards and Scholarships

- ◆ Wellcome Trust \$1M Innovator Award winner, 2020
- ◆ Kristjan Jaagu Scholarship, 2012-2016
- ◆ Young Scholar Grant and 8 other scholarships, 2008-2012