Reza Naima

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Summary

PhD bioengineer, VC-backed founder, and systems engineer who builds complete sensing stacks — sensor physics and analog front ends through embedded firmware, wireless, and cloud. Two decades focused on wearable physiologic monitoring across PPG/SpO2, bioimpedance, ECG/HRV, EEG, EMG, GSR, temperature, and inertial sensing, with deep work in low-noise analog design, optical characterization, calibration, and low-power architecture. Led internal teams and contract manufacturers from prototype through ISO 13485 development into production, raised $10M, and led the company through an acquisition of its technology. Earlier career in embedded systems, secure software, and datacenter infrastructure; currently building agentic AI systems and distributed device infrastructure on GCP.

Experience

Lunovo, Founder 2025 – present

Built a distributed platform for deploying AI agents against real mobile applications, running in production as the operational backbone of the company's consumer service.

- Architected a cloud-hosted Android fleet (GCP, CockroachDB, FastAPI) giving LLM agents authenticated, stateful control of live apps, with per-customer device isolation, dedicated network identity, and persistent device state across sessions.
- Designed dynamic provisioning and teardown so fleet size tracks customer count directly — devices are allocated, warmed, and reclaimed on demand rather than held as static capacity.
- Built the agent control loop: screen-state interpretation, action planning, and post-action verification, with recovery from UI drift and human-in-the-loop escalation on low-confidence steps.
- Instrumented telemetry and evaluation to measure agent task success against live third-party apps, and drove infrastructure cost per active device down through scheduling and resource tuning.

Magnetic Insight, Systems Design Consultant 2023 – 2025

Designed embedded hardware/software control, instrumentation, and monitoring systems for next-generation medical imaging technology (Magnetic Particle Imaging).

- Architected signal-conditioning, instrumentation, control, and monitoring electronics, including CAN-based embedded communications and hardware interfaces.
- Drove system-level design tradeoffs across signal integrity, sensing, control, reliability, observability, and integration complexity.
- Managed external PCB assembly and contract-manufacturing partners through prototype and development builds.

Blumio, Chief Scientific Officer 2021 – 2022

Led technical strategy for radar-based blood pressure sensing and wearable physiologic monitoring.

- Guided R&D strategy for non-invasive blood pressure sensing using radar-derived physiologic waveforms.
- Optimized radar-to-pulse-waveform algorithms and developed visualization tools to evaluate signal morphology and sensing performance.
- Partnered across hardware, algorithms, and product teams.

ReThink Medical (Heart Failure Medical Device), CEO & CTO 2015 – 2020

Led ReThink's transition into a venture-backed heart-failure medical-device company, scaling a multidisciplinary team and advancing a novel wearable sensing platform through to the acquisition of its technology.

- Pioneered a wrist-worn dry-electrode bioimpedance spectrometry platform for edema monitoring and a highly refined wearable PPG system, including emitter/detector selection, optical geometry, analog front ends, and low-power optimization; developed a novel PPG architecture that avoided infringement of existing patents.
- Designed the hardware integrating bioimpedance, PPG, skin temperature, accelerometry, Wi-Fi connectivity, and inductive charging; architected firmware and drove usability across patient and hospital workflows.
- Led multidisciplinary internal teams and external partners across product development, ISO 13485 quality systems, regulatory strategy, clinical planning, verification and validation, and manufacturing.
- Raised $10M in venture funding and grants, and led the company through an acquisition of its technology.

ReThink Medical (Custom Physiologic Monitoring), Founder 2010 – 2015

Founded and independently developed custom wireless and wearable physiologic-sensing systems for academic and clinical research.

- Personally designed and built complete systems spanning analog front ends, embedded electronics, firmware, wireless communications (Wi-Fi/Bluetooth), signal processing, and PC/iPad software.
- Developed multiple devices, including a 16-channel Wi-Fi EEG system, multichannel wireless EMG glove, localized EMG patch, and multimodal ECG/bioimpedance/IMU monitor, incorporating biopotential acquisition, respiration, HRV, motion sensing, and synchronized multimodal physiologic measurement.

UC Berkeley & UCSF, Doctoral Researcher 2004 – 2012

Conducted doctoral research on integrated physiologic monitoring technologies and wireless body-area networks.

- Architected and developed The Berkeley Tricorder, the most highly integrated compact wireless physiologic sensing platform of its time, integrating SpO2, ECG, EMG, bioimpedance-based respiration, and accelerometry with embedded processing, local storage, and wireless telemetry. The platform helped form the technical foundation for VG Bio, now physIQ.
- Developed environmental sensing technologies for the Black Cloud Project, creating hardware for high-resolution climate and air-quality monitoring, leading to licensing and commercialization by Aclima.

Pinpoint Tracking Solutions, Embedded Systems Consultant 2004 – 2005

Developed embedded automotive tracking and control technology.

- Built low-level automotive OBD2 interfaces for vehicle tracking and control, reverse-engineering vehicle control systems across multiple automobile platforms.
- Developed the principal technology used by Pinpoint Tracking Solutions, later patented.

R&J Dynamics / Loudcloud / BuyDirect / Cisco Systems, Early Engineering Roles 1997 – 2004

Founder, senior engineering, technical lead, and acting manager roles spanning embedded hardware products and large-scale datacenter infrastructure.

- Founded R&J Dynamics and developed a GPS-enabled bicycle computer with a graphical interface — a complete embedded hardware product from board design through user-facing software.
- Led enterprise monitoring infrastructure and appliance-based datacenter deployment at Loudcloud as technical lead and acting manager, owning reliability and scalability of monitoring systems across customer environments.

Selected Patents

Edema Detection — 2020 — bioimpedance-based peripheral edema monitoring

Systems and Methods for Calibrating Dry Electrode Bioelectrical Impedance Sensing — 2018 — dry-electrode bioimpedance spectrometry

Multimodal Climate Sensor Network — 2010 — environmental sensing technology licensed to and commercialized by Aclima

Method and Apparatus for Secure Wireless Tracking and Control — 2005 — vehicle tracking and control technology

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Core Expertise

Physiologic & Multimodal Sensing: PPG/SpO2, bioimpedance spectrometry, ECG, HRV, EEG, EMG, GSR, skin temperature, respiration, inertial and environmental sensing; multimodal integration and physiologic signal analysis

Sensor Hardware & Embedded Systems: Analog front ends, optical characterization, sensor/component selection, low-noise and low-power design, calibration and characterization, embedded electronics, firmware architecture and development, Wi-Fi/Bluetooth connectivity, and inductive charging

Productization & Manufacturing: Prototype-to-product development, BOM ownership and cost optimization, supplier sourcing, contract-manufacturer selection and management, ISO 13485 quality systems, IEC 60601 compliance, verification and validation, and regulatory and clinical coordination

Technical & Company Leadership: Founder/CEO/CTO experience, system architecture and technical roadmap ownership, multidisciplinary engineering leadership, external engineering partnerships, IP strategy, fundraising, and venture-backed startup execution

Selected Publications

Waveform Morphology Comparison in Wearable Blood Pressure Sensors — IEEE EMBC, 2022 — DOI

Pervasive Health Monitoring — UC Berkeley, 2012 — Graduate Thesis

Wireless Body Area Network Implementations for Ambulatory Health Monitoring — Pan Stanford Publishing, 2012 — DOI

The Berkeley Tricorder: Wireless Health Monitoring — Wireless Health, 2010 — DOI

Black Cloud: Patterns Towards da Future — ACM Multimedia, 2009 — DOI

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Education

PhD **UC Berkeley & UCSF**, Bioengineering
Integrated physiologic monitoring technologies and wireless body-area networks

BS **UC San Diego**, Bioengineering
Fluid dynamics, mechanical systems, and physiologic modeling