

TUSHAR PATIL

Technology & Product Leader | AI Platforms • Enterprise Health-Tech • 0-to-1 Product Scaling

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PROFESSIONAL SUMMARY

Technology and product leader with 15+ years of experience owning product strategy, roadmap, and lifecycle execution for AI-enabled healthcare and wearable technology platforms. Nearly a decade as Chief Technology Officer, defining product vision and driving 0-to-1 execution for a venture-backed startup — building cross-functional teams, go-to-market capability, and OEM/ODM partnerships from the ground up. Proven track record translating AI/ML and cloud capabilities into measurable business outcomes, including a 30% improvement in patient engagement and monitoring accuracy on an AI-driven health platform. Patent holder in AI-based activity classification. Skilled in cross-functional leadership, executive stakeholder communication, and scaling products from prototype to mass production.

CORE COMPETENCIES

Product Strategy & Leadership: Product Vision & Roadmap • End-to-End Product Lifecycle Management • 0-to-1 Product Development • Go-to-Market Strategy • Executive & Stakeholder Communication

AI & Platform Technology: AI/ML Product Development • AI-Enabled Diagnostics & Analytics • Cloud Platforms (AWS, Google Vertex AI) • Sensor Integration & IoT • Embedded Systems & Systems Architecture

Cross-Functional & Team Leadership: Cross-Functional Team Building & Mentoring • Engineering & Solution Architecture Partnership • Customer & Market Discovery • Technology Transfer & Scaling • OEM/ODM & Supply Chain Partnerships

Execution & Governance: Agile & Iterative Product Development • Verification & Validation (V&V) • Regulatory Compliance & Quality (EMC, HIPAA) • Program & Budget Management • Patents & IP Development

PROFESSIONAL EXPERIENCE

Lead Engineer — Capability Architect | Dr. Reddy's Laboratories

Oct 2023 – Present

- Own end-to-end product lifecycle management for complex, multi-domain therapeutic devices, aligning mechanical, hardware, and software engineering teams around a unified roadmap and delivery plan.
- Serve as capability architect for new technology transfers, translating R&D innovation into scalable, commercially viable products in partnership with global manufacturing partners.
- Define and drive verification, validation, and EMC testing programs to ensure products meet rigorous quality, safety, and regulatory requirements ahead of launch.
- Manage multiple concurrent development programs, balancing innovation with schedule, cost, and design-control constraints — core product trade-offs in a regulated environment.

Chief Technology Officer | Oxstren Wearable Tech

Feb 2014 – Sep 2023

- Owned technology and product strategy for a wearable and diagnostic AI startup, defining vision, roadmap, and execution from the ground up and scaling the company's core product lines from 0 to 1.
- Led the full product lifecycle — market discovery, requirements, design, development, validation, and launch — for AI/ML-enabled wearable and diagnostic products.
- Built and mentored cross-functional teams spanning hardware, embedded software, AI/ML, and systems integration; established development processes and delivery cadence as the company scaled.
- Directed integration of multi-disciplinary technology stacks — sensors, embedded systems, cloud, and AI/ML — into cohesive, data-driven product experiences for healthcare and wellness customers.
- Established supplier networks and OEM/ODM partnerships to scale products from prototype to mass production, aligning technical roadmap with commercial and go-to-market objectives.

Research Associate | Mumbai University

Jul 2012 – Jan 2014

- Led early-stage research and product discovery initiatives in BioMEMS and advanced instrumentation.
- Mentored engineering teams and drove IP creation across multiple student-led product projects.

- Engineered embedded hardware architecture and firmware for diagnostic products, improving performance, reliability, and time-to-market.
- Delivered an embedded Linux-based blood cell counter and integrated cloud connectivity, enabling scalable, data-driven healthcare applications.

KEY PRODUCT INITIATIVES

AI-Based Human Metabolism Monitoring & Recommendation Platform *(36 months)*

- Owned product strategy and delivery for an AI-driven metabolism monitoring platform, defining requirements and roadmap for personalized health insights and real-time recommendations.
- Directed integration of multi-source biosignal data (ECG, SpO2, CGM) via BLE/NFC into a unified mobile product experience.
- Partnered with engineering to build secure, cloud-based analytics on Google Vertex AI, turning multimodal health data into clinically actionable insights.
- Result: improved patient engagement and monitoring accuracy by 30%, strengthening early detection and proactive care outcomes.

COGS Optimization of Digital Therapeutic Device *(24 months)*

- Led cross-functional redesign of a wearable digital therapeutic device to optimize manufacturing cost while preserving quality and performance.
- Streamlined BOM and coordinated global sourcing, reducing costs and lead times.
- Established scalable manufacturing in partnership with the world's largest device manufacturer.

Wearable ECG & SpO2 Measurement Device *(36 months)*

- Owned product design and go-to-market for a medical-grade wearable ECG/SpO2 device for Indian and US markets, spanning multiple form factors (chest bands, smartwatches).
- Directed secure BLE data pipeline to a companion mobile app for clinical review and storage.

Human Body Composition Analyzer *(30 months)*

- Led end-to-end product development of a bioimpedance-based body composition analyzer, from hardware/firmware through companion app.
- Partnered with CDMOs in China to scale manufacturing, improving measurement reliability by 20% and reducing production costs by 15%.

AI-Based Exercise Analysis Platform *(24 months)*

- Directed development of a camera-based AI product for real-time physiotherapy exercise analysis and form correction.
- Delivered computer-vision tracking of 32 body joints across iOS/Android, with real-time voice and visual feedback — an early AI-copilot-style product experience.

5-Part Blood Cell Counter *(12 months)*

- Led product and engineering delivery of an embedded Linux-based diagnostic system, from hardware architecture through calibration, validation, and manufacturing readiness.

PATENTS & PUBLICATIONS

“Training of Classifiers for Identifying Activities Based on Motion Data” — WIPO Patent WO2018134646. Discloses an ML-based system for classifying user activity from motion data, using trained classifiers with real-time and preset patterns to continuously improve accuracy — foundational IP underpinning AI-driven wearable products.

EDUCATION

M.Tech, Instrumentation — COEP Technological University, Pune (2011), Grade: 8.3/10

B.Tech / B.E., Biomedical Engineering — Mumbai University (2009), Marks: 75%

CERTIFICATIONS

AWS Certified Cloud Practitioner (CLF-C02) | HIPAA