

JAMES H. ROSING, MD, FACS

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PROFESSIONAL SUMMARY

Board-certified plastic surgeon and physician-engineer bridging clinical medicine with artificial intelligence development. Dual expertise in patient care (14+ years surgical practice, double board-certified) and AI systems engineering (architect of multiple production healthcare platforms including AEON, a HIPAA-compliant multi-agent health intelligence system). Currently deploying advanced AI capabilities—Model Context Protocol (MCP), prompt caching, extended thinking, vision API, and streaming—in production clinical workflows including EPIC FHIR integration, multi-omics analysis, and physician-supervised interventions. Committed to safe, beneficial AI deployment in life sciences through physician-led development that ensures clinical accuracy, patient safety, and regulatory compliance.

CURRENT POSITIONS

Founder, Principal Plastic & Reconstructive Surgeon

Allure MD Plastic Surgery and Dermatology | Newport Beach, CA | 2012 - Present

Board-certified plastic and reconstructive surgeon serving as founder, principal surgeon, and chief technology officer of a premier medical aesthetics practice. Uniquely combining clinical excellence with technical innovation to deliver luxury patient experiences and operational efficiency.

Clinical Leadership

- Perform advanced plastic and reconstructive surgical procedures
- Lead clinical team in delivering comprehensive aesthetic and dermatological services
- Develop treatment protocols integrating surgical and non-surgical modalities
- Maintain HIPAA-compliant patient care standards with emphasis on safety and outcomes

Business Operations

- Founded and direct all aspects of practice operations and strategic growth
- Oversee patient acquisition, retention, and experience optimization
- Manage vendor relationships, partnerships, and service integrations
- Drive marketing strategy targeting affluent Newport Beach clientele

Technology & Innovation

- Architect and develop proprietary practice management platform (Next.js, React, TypeScript, Supabase)
- Design HIPAA-compliant systems for patient portal, appointment booking, and clinical workflows
- Integrate enterprise systems including Zenoti (POS/scheduling), Twilio (communications), Cloudinary (media), and AI-powered patient engagement tools
- Implement AI applications including Claude-powered chatbot, skin analysis, and marketing automation
- Lead test-driven development with comprehensive API architecture and security implementation

Key Achievements

- Built full-stack medical platform with 1,000+ components serving 5,600+ patients
- Developed AI-integrated CRM with lead scoring, automated follow-up, and conversion tracking
- Created patient portal with treatment protocols, appointment management, and secure messaging
- Implemented luxury design system reflecting brand positioning in high-end aesthetics market

Technical Proficiencies: Next.js, React, TypeScript, PostgreSQL, Supabase, Tailwind CSS, Claude AI SDK, Zenoti API, Twilio, Cloudinary, Vercel, Git

Technology Project Lead & Healthcare Innovation Independent Development Projects 2024 - Present

Actively developing healthcare technology solutions through self-directed learning and daily hands-on coding practice. Leveraging Claude Code and modern development tools to bridge clinical expertise with emerging technologies.

BEHAVIORAL EVALUATION & SAFETY EXPERIENCE

Three-Layer Verification Architecture: Developed systematic approach to minimizing hallucination risk in clinical AI recommendations. First layer: rules-based validation against clinical reference ranges. Second layer: outcome tracking comparing recommendations to established protocols. Third layer: deterministic guardrails intercepting potentially harmful outputs before user delivery.

Production Incident Response: Identified and resolved behavioral issues in deployed healthcare AI systems including medication dosage hallucinations, inappropriate clinical recommendations, and edge cases where model confidence exceeded accuracy. Developed patterns for distinguishing promptable issues from model-layer problems.

Evaluation Framework Development: Built custom accuracy metrics for domain-specific applications (e.g., wind prediction: direction within $\pm 22.5^\circ$, speed within ± 3 knots). Experience designing evaluation criteria that capture meaningful quality dimensions beyond simple accuracy.

PROJECTS

Development Portfolio Summary: 15+ specialized healthcare AI modules, 3 production systems, 2 open-source packages (npm, GitHub)

AEON - Longevity Intelligence Platform

Lead Architect & Developer | 2024-Present

Multi-agent health optimization platform deploying advanced AI in clinical contexts

Technical Architecture:

- 30 concurrent AI agents using MCP servers, prompt caching, extended thinking, vision API, streaming
- 6 specialized health agents: Sleep, Nutrition, Exercise, Stress, Emotional Intelligence, Intervention Manager
- 23+ coordinated sub-agents with autonomous hook system
- RAG integration with 50K+ scientific papers via Pinecone vector database

Clinical Integration:

- 400+ biomarker integration and interpretation
- Multi-omics data processing (genomics, proteomics, metabolomics)
- Real-time wearable monitoring (Oura, WHOOP, Dexcom CGM, Apple Health, Garmin)
- EPIC FHIR integration for Electronic Medical Records
- Physician-supervised peptide protocols and NAD+ optimization

Technical Stack: TypeScript, Node.js 20 LTS, Python, PostgreSQL, TimescaleDB, Redis, Docker

Impact: Bridges personalized medicine with AI-assisted clinical decision support, demonstrating advanced AI capabilities for complex, safety-critical healthcare applications.

ALLURE MD Clinical Practice Management System

Lead Developer | 2023-Present

<https://allure-md.com>

- AI-powered appointment booking system using Claude Agent SDK with atomic slot locking (PostgreSQL)
- Omnichannel patient communication system with Zenoti booking synchronization
- Multi-channel communication aggregation (Twilio, FB Messenger, Google Business Messages)

- HIPAA-compliant infrastructure with comprehensive audit logging and message archival with real-time processing.

Technical Stack: Next.js, Supabase, Twilio, Zenoti API integration

KEEL - AI-Powered Pre-Medical Guidance System

Founder & Lead Architect | 2025-Present

<https://keel.guide/>

Multi-persona AI mentor synthesizing wisdom from nine distinct advisor perspectives into personalized counsel for pre-medical students

Technical Architecture:

- 9 distinct advisor personas with dynamic weighting algorithms
- Multi-persona synthesis engine for coherent guidance
- Vector similarity matching for opportunity alignment
- Commitment tracking and accountability framework

Technical Stack: TypeScript, Next.js 14, FastAPI, Claude API, PostgreSQL with pgvector

Impact: Demonstrates practical application of multi-agent AI systems for educational guidance, with transferable architecture for clinical decision support.

SAIL – Surface Atmospheric Intelligence Layer

Founder & Lead Developer | 2025-Present

<https://sail-rouge.vercel.app/>

Real-time wind prediction platform for sailing enthusiasts and marine businesses, demonstrating end-to-end data science capabilities from sensor deployment to production ML models.

- **Data Engineering:** Custom anemometer deployment 100 meters from shore, real-time data ingestion pipeline processing continuous wind measurements, time-series database architecture with TimescaleDB
- **Statistical Modeling:** Wind pattern analysis using rolling statistics, seasonality decomposition, and correlation analysis with NOAA buoy data for validation
- **Machine Learning:** Gradient boosting models for 1-4 hour wind predictions, feature engineering from meteorological variables, hyperparameter optimization with cross-validation
- **Evaluation Methodology:** Custom accuracy metrics for wind prediction (direction within $\pm 22.5^\circ$, speed within ± 3 knots), back testing framework, confidence interval calibration
- **Technology Stack:** Python, scikit-learn, XGBoost, PostgreSQL/TimescaleDB, FastAPI, React, deployed on AWS

OPEN-SOURCE CONTRIBUTIONS

INDEXER-AI - Code Intelligence Tool

Creator | 2024-Present

High-performance code indexer optimized for AI assistants (npm package: indexer-ai). Built to solve the problem of efficiently providing large codebases to LLMs within context limits.

Performance:

- 3.6x faster indexing through Worker Threads and parallel processing
- 10,000 files indexed in ~25 seconds
- 50-70% token compression through intelligent AST-based extraction
- 9-language support via Tree-sitter parsing (JavaScript, TypeScript, Python, Go, SQL, GraphQL, YAML, Astro)

- ES2023, Node.js 20 LTS, async I/O architecture

Impact: Enables AI assistants to better understand large codebases. Published on npm with active maintenance

Zenoti MCP Server (GitHub, 2025)

Model Context Protocol server enabling AI agents to interact with spa/wellness management systems. Demonstrates practical application of Anthropic's MCP standard for agentic tool use.

- Workflow-centric tool design optimized for multi-step booking operations
- Agent-optimized response formatting for reliable LLM consumption
- Production-ready error handling designed for AI agent recovery patterns
- Claude Desktop integration for healthcare practice automation

EDUCATION & TRAINING

Plastic Surgery Residency UC Davis Medical Center • 2009-2011

- Francis W. Noel Award for Scholarly Activity

Administrative Chief Resident, General Surgery Stanford University Hospital • 2008-2009

General Surgery Residency Stanford University Hospital • 2006-2009

General Surgery Internship & Residency UC Irvine Medical Center • 2004-2006

Doctor of Medicine Keck School of Medicine, University of Southern California • 2000-2004

- **Ranked 5th in class**
- Alpha Omega Alpha Honor Medical Society (Junior year induction)
- Graduate with Highest Distinction
- Dean's Scholar

Bachelor of Arts, Biology University of Southern California • 1993-1997

BOARD CERTIFICATIONS & LICENSES

- **American Board of Plastic Surgery** • 2013 (Active MOC)
- **American Board of Surgery** • 2011
- **California Medical License** • Active since 2006
- **DEA Registration** • BR9603463

PUBLICATIONS & RESEARCH

Publication Metrics (Google Scholar: <https://scholar.google.com/citations?user=V3IzcHsAAAAJ>)

- **Citations:** 396 total citations, 95 since 2020
- **h-index:** 6 overall, 4 since 2020
- **i10-index:** 4 overall, 2 since 2020

Peer-Reviewed Publications

1. **A Prospective Study of Total Gastrectomy for CDH1-Positive Hereditary Diffuse Gastric Cancer**
Chen Y, Kingham K, Ford JM, **Rosing JH**, Jeffrey RB, et al.
Annals of Surgical Oncology. 2011;18(9):2594-2598.
Citations: 214
2. **Autologous Fat Grafting for Primary Breast Augmentation: A Systematic Review**
Rosing JH, Wong G, Wong MS, Sahar D, Stevenson TR, Pu LQ.
Aesthetic Plastic Surgery. 2011;35(5):882-890.
Citations: 129
3. **Total Posterior Leg Open Wound Management with Free Anterolateral Thigh Flap: Case and Literature Review**
Osman S, Chou S, **Rosing JH**, Sahar DE.

ePlasty. 2013;13:e50.

Citations: 6

4. **Ulnar Neuropathy After Tube Thoracostomy for Pneumothorax**
Rosing JH, Lance S, Wong MS.
The Journal of Emergency Medicine. 2012;43(4):e223-e225.
Citations: 4
5. **Effectiveness of the Asteame Nipple Guard™ in Maintaining Projection Following Nipple Reconstruction: A Prospective Randomized Controlled Trial**
Rosing JH, Momeni A, Kamperman K, Kahn D, Gurtner GC, Lee GK.
Journal of Plastic, Reconstructive & Aesthetic Surgery. 2010;63(10):1592-1596.
Citations: 19
6. **Role of Factor VII in Correcting Dilutional Coagulopathy and Reducing Re-operations for Bleeding Following Non-traumatic Major Gastrointestinal and Abdominal Surgery**
Tsai TC, **Rosing JH**, Norton JA.
Journal of Gastrointestinal Surgery. 2010;14(8):1311-1318.
Citations: 9
7. **Massive Extra-adrenal Retroperitoneal Paraganglioma: Pre-operative Embolization and Resection**
Rosing JH, Brooke Jeffrey R, Longacre TA, Greco RS.
Digestive Diseases and Sciences. 2009;54(8):1621-1624.
Citations: 15

Book Chapters

1. **Surgical Management of Hyperparathyroidism**
Rosing JH, Norton JA.
In: Jameson JL, de Groot LJ (eds): *Endocrinology*, 6th edition, Chapter 64.
Philadelphia: Saunders Elsevier, 2010, pp. 1212-1222.
2. **ICU Recall**, Third Edition
Tribble CG, Hobson C, Thaemert N, **Rosing JH** (contributor).
Lippincott Williams & Wilkins, 2007. Thoracentesis chapter.

PROFESSIONAL EXPERIENCE

Co-Founder

Newport Beach Dermatology & Plastic Surgery • 2012-2017

Plastic Surgeon

Laser & Skin Surgery Center of Northern California • 2011-2016

PROFESSIONAL SOCIETIES

Fellow, American College of Surgeons (FACS) • American Society of Aesthetic Plastic Surgeons (ASAPS) • American Society of Plastic Surgeons (ASPS) • California Society of Plastic Surgeons (CSPS)

EXTRACURRICULAR INTERESTS AND ATHLETIC SOCIETIES

Endurance athlete: completed multiple marathons and century rides. Active wing foiler, kite surf/foiling, personal interest that led to developing the SAIL wind prediction platform. Father of four.