

REVANTH KONDAVETI

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Applications Engineer | Full-Stack Developer | AI/ML Builder | Startup Founder

PROFESSIONAL SUMMARY

Versatile engineer with 5+ years of experience spanning RF/semiconductor applications engineering, wireless research (THz/5G/6G), and full-stack AI product development. Proven track record launching 100+ hardware products at Mini-Circuits, shipping 2nm/3nm metrology systems at KLA, and driving AR/VR platform development at Meta. Simultaneously built a portfolio of 12+ AI-powered software products—from autonomous trading bots to data center management platforms—demonstrating rare breadth across hardware and software. Published 10 research papers; founded two startups.

TECHNICAL SKILLS

Languages & Frameworks: Python, JavaScript/TypeScript, React, Next.js, Node.js, FastAPI, Flutter, Julia, SQL, HTML/CSS

AI / ML: OpenAI GPT-4o, Claude, Gemini, Grok, Scikit-learn, LLM Orchestration, Multi-Agent Systems, Sentiment Analysis, NLP

RF & Wireless: THz/mmWave/5G/6G NR, HFSS, Transceiver Systems, Antenna Design, Channel Modeling, Beamforming, S-Parameters, VNA, RF Filter Design, Signal Integrity, Link Budget Analysis, Spectrum Analysis

Semiconductor & Hardware: Semiconductor Process Tech, Broadband Plasma Metrology, Wafer Fabrication, Etch & Deposition, IC Packaging, CMOS/GaN/GaAs, PCB Layout, Schematic Capture, Embedded Systems, FPGA, SPI/I2C/UART, Power Electronics

Optics & Photonics: Optical Metrology, Laser Systems, Fiber Optics, Spectroscopy, Interferometry, Thin-Film Optics, Optical Alignment, FDTD Simulation

Test & Measurement: Qiskit Metal, Oscilloscopes, Signal Generators, Power Meters, MATLAB/Simulink, LabVIEW, ATE Systems, Statistical Process Control

Tools & Platforms: Docker, Git, Firebase, Prisma, PostgreSQL, SQLite, Prometheus/Grafana, Chrome Extensions, WebSockets, REST APIs

Product & Leadership: Scrum Master (Certified), A/B Testing, Figma, Cross-Functional Team Management, Customer Demos, Product Strategy

WORK EXPERIENCE

Mini-Circuits | Applications Engineer II | New York, NY *Jan 2024 – Present*

- Launched 100+ products in 24 months spanning AI, DOCSIS 4.0, CATV, Core & Wire, and 5G technology verticals
- Managed product line of 10,000+ products; sole contributor to RF Core & Wire product category for customers
- Drove RF product design through high-efficiency engineering, improving semiconductor manufacturing yield across multiple product families
- Coordinated customer visits, sales rep partnerships, and new employee training; co-authored application notes

Tap to Party | Founder & Product Lead | California *Nov 2023 – Present*

- Built full-stack event discovery app (Flutter, React JS, Firebase) from concept to App Store; managed cross-functional teams across front-end, back-end, SKU, and finance
- Drove product strategy through A/B testing, customer interviews, and market analysis; converted insights into actionable user stories
- Shipped APIs, SDKs, and analytics integration within two months; iterated rapidly based on user feedback and reviews

Ramsoft | Applications Engineer | Texas *Aug 2023 – Jan 2024*

- Delivered entire product project in six months from design to execution, covering characterization, alpha testing, and pilot tooling
- Performed RF and semiconductor device testing including transceiver systems; documented BKMs and training materials for field teams

KLA Corporation | Applications Engineer | Milpitas, CA *Sep 2022 – Jul 2023*

- Launched first 2nm and 3nm defect metrology systems utilizing broadband plasma technology for leading-edge wafer processing
- Collaborated with 10+ developers, system engineers, and algorithm teams to deliver customer demos to Intel, SK Hynix, TSMC, and Samsung
- Conducted on-site training for field application engineers; generated comprehensive demo and test reports for customer review

Meta – Reality Labs | Wireless Platform Developer (Contract) | Sunnyvale, CA

Apr 2022 – Sep 2022

- Led projects for Quest Pro, Ray-Ban Stories, and VR Quest 3; optimized wireless latency from 140ms to <30ms through end-to-end communication and protocol stack improvements
- Impacted \$200M+ in product sales (2022–2023); demonstrated results at Meta Tech Fair to key stakeholders and vendors
- Designed new test bench setups at Reality Labs for AR/VR wireless performance validation

WiDeS Lab, USC | Research Associate | Los Angeles, CA

Aug 2020 – Apr 2022

- Proved THz viability for LOS, NLOS, and WiFi use cases, directly contributing to \$1M increase in research funding
- Led team of 10 RF engineers across testing, algorithms, and design; authored 7 research papers in THz and wireless communications
- Presented results to Samsung, Nokia, DRDO, and at IEEE conferences; managed lab operations and recruited/trained new members

Levenson-Falk Lab, USC | Research Associate | Los Angeles, CA

May 2021 – Aug 2021

- Joined as first engineer in the lab; drove superconducting qubit project from concept to execution in under 2 months
- Improved T1 coherence times by 8x for a superconducting qubit in cavity; achieved first APS conference presentation in 1.5 months
- Simulated multi-qubit systems in Julia and HFSS; managed cryogenic cooling to 15mK

SELECTED PROJECTS & TECHNICAL PORTFOLIO

Kalshi AI Trading Bot — *Autonomous Prediction Market Trading System*

- Built multi-model AI ensemble (Grok, Claude Sonnet, GPT-4o, Gemini 2.5 Flash) with weighted consensus for autonomous Kalshi event contract trading
- Implemented Kelly criterion position sizing, dynamic exit strategies, portfolio optimization, and market-making algorithms
- Stack: Python 3.12+, WebSocket streaming, REST API integration, real-time P&L tracking with Sharpe ratio and drawdown analytics

NeuralGrid AI — *Data Center Energy Management Platform*

- Developed production-grade ML-driven GPU power optimization platform achieving $R^2 = 0.95+$ across 10 GPU architectures and 8 workload types
- Built multi-protocol device auto-discovery (Redfish, SNMP v2c/v3, Modbus TCP, NVIDIA DCGM), multi-tenant RBAC with AES-256-GCM encryption
- Stack: Node.js, SQLite, Prometheus integration, WebSocket real-time telemetry, Docker deployment with TLS termination

Satellite Hybrid Internet — *MEO Satellite Communication System Design*

- Designed complete MEO satellite hybrid internet architecture with link budget analysis across 11 frequency bands (75–300 GHz)
- Built Python simulation suite generating 14 analysis plots covering modulation, beam patterns, antenna gain, and satellite sizing
- Created interactive dashboards, engineering proofs, and pitch deck for potential commercialization

QuantumShield — *Hybrid Quantum-Classical Cryptography Platform*

- Architected modular security platform integrating Quantum Key Distribution (QKD), Post-Quantum Cryptography (PQC), and Quantum Random Number Generation (QRNG)
- Built orchestrator layer with vendor abstraction for enterprise integration; created business plan, pitch deck, and landing page

- Stack: Python, FastAPI, cryptographic libraries; demonstrates intersection of quantum physics background and software engineering

JobFill.ai — *AI-Powered Job Application Chrome Extension*

- Built Chrome extension with React popup/sidepanel, content scripts for form detection and auto-fill, and AI backend for answer generation
- Features include ProfileVault (resume management), AI cover letter generation, application tracker, and intelligent form field matching
- Stack: React, Chrome Extension MV3, background service workers, AI API integration

Teach & Repeat — *Cross-Platform Workflow Automation App*

- Developed RPA-style automation tool where users teach workflows once and replay them; analogous to modern AI agent products
- Built full cross-platform stack: Node/Fastify backend, Vite/React web client, Chrome Extension (MV3) DOM recorder, and SwiftUI iOS skeleton
- Features skill creation, run previews with step-by-step execution, and an AI chat agent for natural language commands

MarketPulse (Stock Predictor) — *Financial Markets Analytics Platform*

- Built Finviz-style platform with real-time quotes, interactive TradingView charts, AI-powered news sentiment analysis, and multi-criteria stock screener
- Includes technical indicators (SMA, EMA, Bollinger Bands), competitor/supply chain mapping, and price alert system
- Stack: React frontend, Python FastAPI backend, real-time data APIs, AI sentiment classification

SocialSurgeGenie — *AI Social Media Management Platform*

- Developed multi-platform posting tool (Facebook, Instagram, Twitter, LinkedIn, YouTube, TikTok, Twitch) with AI-powered caption/hashtag suggestions
- Features post scheduling, media management, team collaboration, analytics dashboard, and dark mode
- Stack: Next.js 14 (App Router), TypeScript, Prisma/PostgreSQL, NextAuth.js, OpenAI API, Tailwind CSS

Molt Bot — *Privacy-First Modular Bot Engine*

- Built local-only bot engine with plugin architecture, encrypted storage (Fernet AES-128-CBC + HMAC-SHA256), and on-device LLM chat via llama-cpp
- Integrations: Discord, Slack, Telegram, WhatsApp; includes web scraper, data processor, and interactive CLI
- Emphasis on zero-telemetry, zero-cloud architecture with PBKDF2-derived encryption keys and SQLite-backed storage

Telugu Salesman — *Multilingual AI Sales Agent*

- Created conversational AI sales agent with negotiation engine, persona engine, and dynamic knowledge base in Telugu/English
- Integrated Sarvam AI for multilingual NLP; built n8n workflow automation, template system, and FastAPI backend
- Demonstrates NLP, conversational AI, and cross-cultural product design capabilities

Quantum Encrypted Call — *Quantum-Secured Real-Time Communication*

- Extended quantum cryptography work into real-time voice/video communication with quantum-grade encryption
- Combines QKD protocols with standard WebRTC for end-to-end quantum-secure calling

Founders Decoded — *YouTube Channel & Podcast*

- Founded and host a YouTube channel/podcast interviewing founders and analyzing startup strategies
- Demonstrates communication skills, thought leadership, and deep understanding of entrepreneurship and product building

EDUCATION

M.S. Electrical Engineering

University of Southern California, USA

B.Tech. Electronics & Communication Engineering

Vellore Institute of Technology, India

PUBLICATIONS (10 PAPERS, 2 ACKNOWLEDGMENTS)

- Measurement and modeling of THz propagation channels in indoor environments (Aug 2022)
- On-Demand Cavity Cooling and Reset with a Modular Dissipator, APS (Mar 2022)

- Double-Directional Channel Measurements for Urban THz Microcellular Communications in a Street Canyon, ICC (Jul 2022)
- Impact of common reflecting and absorbing building materials on THz multipath channels, Radio Science (Feb 2022)
- THz Band Channel Measurements and Statistical Modeling for Urban Microcellular Environments, arXiv (Dec 2021)
- THz Band Channel Measurements and Statistical Modeling for Urban D2D Environments, arXiv (Sep 2021)
- Double-Directional Channel Measurements for Urban THz Communications on a Linear Route, ICC 2021 (Jul 2021)
- Ultra-Wideband Double Directional Channel Measurements for THz Communications in Urban Environments, ICC (Jul 2021)
- Robotic Pick and Place Using Two-Finger Touch Sensing (Jul 2019)
- Smart Irrigation System Using Machine Learning and IoT, IEEE (Mar 2019)

ADDITIONAL

Certifications: Certified Scrum Master

Memberships: IEEE Member

Author: Beauty and the Curse (2024)

Judging: SoLA Robotics Competition Judge