

JULIEN LEROSTY

AI Engineer (Agents & Automation)

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AI engineer with 13+ years in production engineering, now building agentic systems at the intersection of LLM orchestration and real-world automation. Architected a self-routing 22-agent workforce, MCP servers, and a multi-bot trading fleet running real money on a remote VPS with >99% uptime over a year. Deep expertise in Claude tooling — streaming, prompt caching, RAG, agent orchestration — and security-first public AI deployments. RF/wireless background (silicon bring-up through mass production) brings hardware engineer's discipline to LLM systems: systematic debugging, measurement-driven iteration, zero tolerance for silent failures.

CORE COMPETENCIES

- Multi-Agent Orchestration (Claude, MCP)
- RAG System Design (similarity, graph, vectorless)
- MCP Server Development
- Security-First Public AI Systems
- Cron-Scheduled Autonomous Agents
- Production Autonomous Bot Engineering
- Prompt Engineering & Caching
- Agent Memory & Skill Architecture
- Claude Skill Architecture (89 essential + 21K on-demand)
- Wireless / RF Domain Expertise (UWB, Wi-Fi, BT, NFC)

SELECTED AI ENGINEERING PROJECTS

- **julienlerosty.ai** Agent-first portfolio that auto-updates weekly; streaming Claude chat over a curated KB; pre-commit gitleaks + custom denylist; auto-deploy via Vercel CI/CD. Public on GitHub — full case study at julienlerosty.ai.
- **22-Agent Workforce** Self-routing coordinator + neural routing layer + RAG router across 1,400+ installed and 21K+ on-demand skills; trained prediction model (250 patterns, 5 models + 8 pre-trained domains) routes every request with zero manual dispatch.
- **Trading Bot Fleet** Real-money production fleet of momentum-strategy bots on Ubuntu VPS (systemd); >99% uptime over 12+ months; shared regime filter, cross-bot position cap, auto-scaling by account NLV, live web dashboard.
- **MCP Server Toolkit** Custom MCP servers wiring Claude into native macOS apps and external services (Keynote, TradingView, internal tools) — enabling desktop automation without browser intermediaries.
- **Skills Library** Progressive-disclosure tiered ecosystem (Tier 1: 89 essential; Tier 2: 21K+ on-demand) with auto-install, dedup audit, and compaction — reduced per-session context overhead by ~50%.

PROFESSIONAL EXPERIENCE

Wireless Field Design Engineer

Aug 2024 — Present

Major Cupertino Tech Company — Cupertino, CA

- Perform R&D-level RF characterization on Wi-Fi, Bluetooth, and UWB hardware across the consumer wireless device portfolio — from prototype silicon to mass production
- Characterize RF performance metrics including Max Range, SNR, RSSI, Range Error, EVM, throughput, sensitivity, and antenna diversity across hardware revisions and environmental conditions
- Design and build RF test benches with shielded enclosures, controlled attenuation networks, and automated instrument control for repeatable, production-scalable hardware validation
- Debug multi-radio co-existence issues at the hardware level, isolating interference between Wi-Fi, BT, and UWB radios through systematic RF analysis and protocol correlation
- Develop Python automation for RF instrument control (spectrum analyzers, signal generators, Keysight UXM), data collection, and post-processing pipelines — reducing manual bench time and improving measurement repeatability
- Perform hardware-level power analysis measuring current draw across wireless operating modes (idle, scan, TX, RX, sleep) to identify chipset-level power optimization opportunities
- Lead Field-to-Lab correlation initiative, designing lab fixtures that reproduce field RF conditions for efficient hardware iteration between design revisions
- Execute device bring-up on Linux-based platforms, debug hardware connectivity issues using internal device logs and RF trace analysis
- Coordinate co-existence issue resolution from detection through root-cause analysis to closure, interfacing with hardware, firmware, and RF system design teams

Technical Program Manager

Jul 2021 — Oct 2023

Cadence Design Systems — San Jose, CA

- Directed multi-year launch of Cadence's OnCloud SaaS platform — company's top priority — coordinating 100+ cross-functional stakeholders across hardware, software, QA, and business teams within scope and budget
- Managed Information Security Program protecting all Cadence source code across build and integration systems, impacting 6,000+ engineering employees
- Presented data-driven technical program status, risks, and KPI reports to C-level executives
- Led IT systems integration for M&A transaction (20 R&D employees), ensuring hardware and software compliance with corporate standards

NFC RF Hardware Engineer / Technical Project Manager

Apr 2010 — Jun 2021

FIME — France & United States

- Designed, assembled, calibrated, and deployed RF test benches globally for NFC chipset validation — including electronics assembly, fixture fabrication, and measurement circuit troubleshooting — generating **\$2M in revenue**
- Achieved **95% first-pass compliance rate** across NFC hardware in mobile devices and payment terminals per ISO 14443 and EMVCo standards, reducing rework cycles and accelerating time-to-market
- Performed hardware-level RF testing: analog characterization, digital protocol validation, interoperability testing, and performance benchmarking with spectrum analyzers, signal generators, and oscilloscopes
- Conducted root-cause analysis of hardware certification failures using systematic RF measurement and component-level debug, **reducing failure rates by 15%**
- Led 30+ NFC product certification projects (\$10K–\$1M+), managing test scope, schedules, customer deliverables, and cross-functional team coordination
- Supported **100+ customers globally** across APAC, Europe, and Americas with hands-on hardware validation, RF bench installation, and technical training
- Invented 3 Axis Solution test equipment — first software accredited by EMVCo to perform official NFC contactless certification

EDUCATION

Master of Science & Bachelor of Science, Electrical Engineering and Automation — University of Caen, France

CERTIFICATIONS

Project Management Professional (PMP) — Project Management Institute, 2017

Professional Scrum Master I (PSM I) — Scrum.org, 2018

TECHNICAL PROFICIENCIES

AI / LLM TOOLING: Claude API (streaming, prompt caching), Anthropic SDK, MCP servers, RAG (similarity + graph + vectorless), agent orchestration, prompt engineering

PROGRAMMING: Python (production bots, scripting, data pipelines), TypeScript / Next.js (full-stack), Linux (CLI, systemd, cron)

INFRASTRUCTURE: Vercel, GitHub Actions, Docker, gitleaks, automated deploy pipelines

WIRELESS / RF: Wi-Fi (802.11a/b/g/n/ac/ax/be), Bluetooth (BR/EDR, BLE 5.x), UWB (802.15.4z), NFC (ISO 14443, EMVCo), Thread, V2X

LAB EQUIPMENT: Keysight UXM, Spectrum / Vector Signal Analyzers, Signal Generators, Network Analyzers, Oscilloscopes, Power Meters, Programmable PSUs, Soldering & Assembly Tools