Cemal Altan

Software Engineer · AI & Agentic Systems

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PROFESSIONAL SUMMARY

Software engineer with 5+ years of experience building production systems across AI, full-stack and mobile development, cloud infrastructure and real-time communications. Founded **Ascendia AI** and took its agentic AI product from idea to production solo, owning product, architecture, engineering and operations. Works in a forward-deployed way: close to users and stakeholders, turning business needs into clear requirements, system designs and secure, well-tested software. At **Vetto AI**, designs and audits evaluation tasks for frontier AI coding agents. Combines product thinking with deep technical range, from systems-level C to multi-agent LLM systems.

Core competencies: Agentic AI & LLM Systems · Multi-Agent Orchestration · AI Evaluation & Safety · Forward Deployed Engineering · Requirements & Workflow Design · System Design · Full-Stack & Mobile · Cloud Infrastructure & DevSecOps · Systems Programming (C/C++) · Real-Time Communications

WORK EXPERIENCE

AI Engineer – Agentic AI & LLMs

Apr 2026 – Present

Vetto AI · Contract

Remote

- Design terminal-based benchmark tasks that test frontier AI coding agents on real engineering work (Linux, debugging, concurrency, multi-bug fixes), with reproducible Docker environments, reference solutions and tests.
- Run agent evaluations with Harbor and calibrate difficulty against frontier models, separating genuine agent failures from ambiguous specifications, environment faults and flawed tests.
- Audit long-horizon optimization tasks end to end (prompts, specifications, public tests, hidden judges) for hidden-test leakage, unenforced constraints and exploitable scoring, reproducing judge behavior offline to prove each finding.
- Deliver reproducible, code-level findings that decide whether tasks enter model training and benchmark releases.

Technologies: Harbor, Docker, Linux, Python, Go, Rust, Bash, C, TypeScript

Founder & Lead AI Engineer

2026 – Present

Ascendia AI · ascendia.day

Istanbul, Türkiye

Ascendia is an agentic life-planning platform for Android and iOS in which one AI agent plans and repairs the user's day, remembers context, coaches workouts, logs meals from a photo and talks by voice. Instead of replying with text, it takes confirmed, reversible actions shown as live interactive cards. Built and operated solo.

- **Product ownership:** Drive the product from requirements and UX direction to subscription pricing, app store compliance and legal terms, acting as product manager, architect and lead engineer.
- **Agent orchestration:** Architected an 11-agent LLM orchestrator (router plus specialists) over 78 typed tools, with a SHA-256 idempotency ledger, a per-domain autonomy dial and one-tap undo from stored inverse operations.
- **Model platform:** Built multi-provider routing across Gemini (Vertex AI), Claude and OpenAI with circuit breakers, SSE streaming, per-call cost metering and prompt caching that serves 73% of input tokens from cache.
- **Memory and proactivity:** Built long-term memory on pgvector with a self-hosted multilingual ONNX embedding model (best of 6 benchmarked), overnight planning and adaptive reminders driven by Health Connect and HealthKit data.
- **Generative UI:** Designed a schema-validated card protocol so the agent answers with actionable cards (plans, workouts, meals, confirmations), plus a deterministic "Fix my day" solver that repairs schedules at zero model cost.
- **Live voice AI:** Built real-time, full-duplex spoken conversation with the agent over WebSockets: streaming on-device speech recognition with adaptive endpointing, natural barge-in, speculative turn preparation that starts the model before the user finishes speaking, and streaming TTS at 123 ms p50 to first audio.
- **Production evaluation:** Designed and ran a 1,536-scenario AI evaluation on production (40 accounts, 101 assertions, under $30 in model spend) scoring quality, latency and reliability, and raised agent turn completion to 99.4%.
- **AI safety:** Built a deterministic crisis-detection gate that halts 49/49 crisis phrasings with 0/47 false positives on every chat, streaming and voice path; added a guard that stops the agent from claiming actions it never took.
- **Performance:** Optimized agent response time by profiling every pipeline stage, parallelizing context retrieval, streaming the first sentence early and adding a deterministic pre-router that resolves 65% of requests with no LLM routing call.

- **Cloud platform:** Operate 14 NestJS services (17 containers) on PostgreSQL 16 + pgvector, Redis and MinIO behind Caddy on Google Cloud, with health-gated deploys, auto-rollback and 504 automated post-release checks.
- **Security and privacy:** Built refresh-token rotation with reuse detection, admin RBAC and audit logs, 22-tier rate limiting, upload sanitization, prompt-injection taint tracking and fail-closed GDPR/KVKK consent.
- **Reliability:** Migrated the full production stack between GCP projects through a 9-phase, checksum-verified transfer; automated nightly offsite backups with verified restore drills.
- **Quality engineering:** Grew automated coverage to 40,000+ tests (~25k mobile, ~18k backend) behind a fail-closed push gate (osv-scanner, gitleaks, SBOM per commit); cut full mobile test runs from 25–35 min to 4.5 min.
- **AI-native engineering:** Designed an engineering organization of AI agents in which Claude Code lead sessions plan, review and release work by parallel Claude and Codex agents in isolated git worktrees, tracing 409 requirements to ~1,140 tasks.

Software Engineer
Jan 2024 – Feb 2025

Invest Barter International · Full-time
Türkiye · On-site

- Served as the link between business stakeholders, customers and engineering: gathered requirements, mapped operational workflows and turned them into technical specifications and shipped features.
- Built and maintained payment and e-commerce features for app.investbarter.com and resolved production payment issues.
- Planned and developed internal accounting and CRM applications that digitized core company operations.
- Designed role-based access control for four user tiers (Admin, Broker, Pro, Client) together with business teams.

Technologies: JavaScript, React, Node.js, Express.js, PostgreSQL, REST APIs, Linux

Software Engineer
Jun 2023 – Jan 2024

VOIPZeker · Contract
Türkiye · Remote

- Developed Kamailio modules and SIP routing logic in C for proxying and load balancing on production VoIP infrastructure, and delivered FreeSWITCH enhancements.
- Wrote Linux system-level C code (sockets, concurrency, memory management) for real-time SIP, RTP and TLS traffic.
- Debugged and optimized system-level components in production using gdb.

Technologies: C, Linux, Kamailio, FreeSWITCH, SIP, RTP, TLS, gdb

Software Engineer Intern
May 2022 – Apr 2023

Transolt Self-Driving Technologies · Full-time
Kayseri, Türkiye

- Contributed to C++ software for autonomous guided vehicles (AGVs), including path-planning and area-coverage algorithms, sensor integration and motion-control modules.
- Worked on fleet and task management: vehicle-server communication over REST, TCP/IP, UDP, EtherNet/IP and Modbus.
- Took part in field testing and validation of the company's AGVs.

Technologies: C++, C#, TCP/IP, Modbus, EtherNet/IP, REST APIs

TECHNICAL SKILLS

AI & LLM Systems: Agentic AI, multi-agent orchestration, tool/function calling, RAG, embeddings and vector search (pgvector), generative UI, LLM evaluation, AI safety, prompt-injection defense, prompt caching

Agentic Development: Claude Code, OpenAI Codex, agentic software development, Claude, Gemini and OpenAI APIs

On-device ML & Voice: ONNX Runtime, sherpa-onnx, Moonshine STT, Silero VAD, Apple SpeechAnalyzer, streaming TTS

Programming Languages: TypeScript, JavaScript, Python, C, C++, C#, Go, Rust, Bash, SQL

Full-Stack & Mobile: Node.js, NestJS, Express.js, microservices, REST, SSE, WebSockets, React Native, Expo, React, Zod

Data & Cloud: PostgreSQL, pgvector, Redis, MinIO (S3), MySQL, Google Cloud, Firebase, AWS, Docker, Caddy, Nginx, Linux

Security & Quality: OAuth, RBAC, rate limiting, osv-scanner, gitleaks, SBOM, CI/CD, test automation, GDPR, KVKK

Product & Delivery: Requirements gathering, workflow mapping, technical specifications, stakeholder management, Agile

Networking & VoIP: SIP, RTP, TCP/IP, UDP, TLS, Kamailio, FreeSWITCH, Modbus, EtherNet/IP, gdb

EDUCATION & LANGUAGES

Bachelor of Engineering (B.Eng.), Computer Engineering
Sep 2021 – Jun 2025

Erciyes University
Kayseri, Türkiye

Languages: Turkish (native) · English (fluent; Erciyes University English Preparatory Program)