

# Juan Manuel Combetto

Senior Software Engineer | Autonomous Systems & AI Infrastructure

omniwired.com | linkedin.com/in/combetto | github.com/omniwired | omniwired@gmail.com

English (Native) · Spanish (Native) · Japanese (Conversational)

## PROFILE

Senior Software Engineer with **15+ years** building production systems at scale. I led 20th Century Fox's global movie distribution engine serving Avatar and Deadpool across **36 countries** with millions of daily requests.

Currently building **autonomous systems** that make real decisions with real money — trading agents executing thousands of daily operations with **99.9% uptime**. I've contributed to Anthropic's MCP ecosystem and have IEEE-published AI research on neural networks.

My expertise spans **enterprise-scale infrastructure**, **blockchain systems**, and increasingly **AI agent architecture** — the orchestration, reliability, and safety patterns that make autonomous systems production-ready.

## CORE EXPERTISE

### Systems Architecture

Distributed systems, microservices, high-availability, API design, performance optimization

### Blockchain

Smart contracts, zkSNARKs, Cosmos SDK, Solana, IBC, DeFi, compliance

### AI & Autonomous Systems

Production agents, multi-agent orchestration, MCP, reliability patterns

### Leadership

Team management (8+ devs), Fortune 500 stakeholders, critical infrastructure

## TECHNICAL SKILLS

**Primary Stack:** Go TypeScript Node.js Python Solidity Rust Kubernetes Docker AWS GCP React

### AI & Agent Infrastructure:

- Agent Patterns:** Multi-agent orchestration, autonomous decision loops, state management, reliability patterns
- Tooling:** MCP servers, function calling, tool use, LLM integration
- Observability:** Deterministic logging, audit trails, reproducible operations

### Blockchain:

- Theory:** PoS Consensus, L2 Rollups, Zero-Knowledge Proofs ( zkSNARKs ), State Machines
- Smart Contracts:** Solidity CosmWasm — ERC-20/721, Security Patterns, Gas Optimization
- Protocols:** Cosmos SDK CometBFT IBC Ethereum Solana Circom

## AI & AUTONOMOUS SYSTEMS

### Production Autonomous Agents | Current

2025 - Present

Deployed trading agents that observe, decide, and execute autonomously — not demos, production systems handling real money.

- Engineered autonomous agents executing **2,880+ daily decisions** with deterministic TWAP scheduling
- Built multi-agent orchestration managing **100+ concurrent wallet operations** with 99.9% uptime
- Designed agent reliability patterns: circuit breakers, exponential backoff, state recovery, graceful degradation
- Implemented deterministic logging via HMAC-SHA256 seeding for **100% reproducible** agent operations
- Created multi-instance Brain/Executor architecture for distributed agent coordination

## MCP Ecosystem Contribution

- Published **perplexity-mcp** — Model Context Protocol server integrating Perplexity AI with Claude
- Available on Smithery marketplace with Glama scoring
- [github.com/omniwired/perplexity-mcp](https://github.com/omniwired/perplexity-mcp)

## AI Research Foundation

- **IEEE published research** on multi-layer perceptron neural networks
- BS-MS Computer Science with thesis — Universidad de Palermo (ACM ICPC Latin American Champions)

## EXPERIENCE

---

### Senior Lead Infrastructure Engineer | Stealth Solana HFT & Market Maker

2025 - Present

*Built enterprise-grade autonomous trading infrastructure with privacy-first architecture.*

- Built wallet management platform orchestrating **200+ daily operations** with privacy routing
- Three-process fortress: isolated key signer (Unix IPC), orchestrator with pessimistic locking, real-time dashboard
- Multi-layer privacy routing via HoudiniSwap, relay wallets, timezone-aware scheduling
- Deterministic engine using HMAC-SHA256 seeding for 100% reproducible, auditable plans
- Security-first: BIP44/Ed25519 key isolation, memory-wiped crypto ops, zero network exposure
- Circuit breakers, rate limiting, reconciliation services — **99.9%+ uptime**
- **>70% test coverage** with **1,304 test specs** across unit, integration, and E2E

### Senior Software Engineer | Silent Research Labs

2024 - 2025

*Privacy-preserving blockchain solutions with regulatory compliance.*

- Architected zkSNARK-based privacy solutions for Ethereum with regulatory auditability
- Developed compliance module enabling privacy tech to meet regulatory requirements
- Collaborated from ideation through ICO on technical roadmap and tokenomics
- **Code passed Zigtur external security audit**

### Full-Stack Developer | Solana DEX Platform (Freelance)

2025

*Front-end development integrating with on-chain programs and real-time data APIs.*

- Led Raydium AMM SDK integration for token swaps and liquidity provision
- Real-time WebSocket price feeds processing **100+ updates/second**
- Full transaction lifecycle: construction, signing, submission, confirmation

### Blockchain Lead Engineer | Teritori

2022 - 2024

*Led engineering for Cosmos's first social network — 8 developers, full production dApp ecosystem.*

- Architected dApp platform: social network, NFT marketplace, DAO maker, multisig, .tori names
- Built Go Indexer (now Open Source) with extensive `gRPC` API
- Production infra: validator ops, Tenderduty/Grafana monitoring, IBC channels (**99.9% uptime**)
- Led **8 developers**: sprints, code reviews, architecture, stakeholder management
- Mobile wallet from scratch: CosmJS, secp256k1, React Native, Expo
- Trading tools: market maker bot, DCA automation, CEX/DEX arbitrage

### Senior Software Engineer | ID&C / Avery Dennison

2021 - 2022

*Fulfillment platform for Comic-Con, Burning Man, Anime Expo — 50,000+ attendees per event.*

- Built complete system from zero with 2-person team: Electron app, web portal
- Stack: TypeScript Vue 3 GraphQL MongoDB GCP Cloud Functions

### Lead Developer | Senior Software Engineer | Fox Broadcasting / 20th Century Fox / Disney

2013 - 2021

*Architected the core engine powering all Fox theatrical and home entertainment releases across 36 countries.*

- Fox's largest CMS: multi-million dollar system serving **19 regions, 36 countries, 12+ languages**
- **43% performance improvement** across Disney properties through systematic optimization
- Automated **90% of movie workflows** — theatrical, home entertainment, localization
- Critical infrastructure for Avatar (\$2.8B), Deadpool, X-Men — millions of daily requests

- Reported directly to Executive Director and SVP of Marketing
- Real-time voting: American Idol (**15M+ viewers**), X-Factor — **150M+ total votes**
- Auth for FOX/FX/NatGeo across Apple TV, Roku, Xbox, Samsung Smart TV
- Led distributed team of **10 engineers** across **6 countries**

## EDUCATION

---

**Universidad de Palermo** Computer Scientist and Engineer (BS-MS) · 2006-2011  
*5-year program combining B.S. and M.S. with thesis. ACM ICPC 2004 Latin American Champions.*

## OPEN SOURCE & CONTRIBUTIONS

---

- **perplexity-mcp** — MCP server (Smithery)
- **claude-statusline** — Claude Code terminal
- **cosmos-vesting-guard** — Validator tooling
- **cosmos-exporter** — Prometheus monitoring
- **Teritori Indexer** — Open source indexer
- **Keplr Chain Registry** — Wallet ecosystem
- **76 public repos** · **279+ PRs**
- GitHub member since **2010**

## RECOMMENDATIONS ON LINKEDIN