

FEDOR CHISHCHIN

AI Agent Architect · Senior Full-Stack Engineer · 20+ Years Building Production Software

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AI Agent Architect specializing in **multi-agent orchestration** and **specification-driven agent development**. Currently leading AI architecture at Omic Inc (US biotech), where I design and lead implementation of autonomous AI systems for scientific research — evaluated against multiple public agent benchmarks (incl. FutureHouse's BixBench) and custom internal scenario suites. I operate at the frontier of AI-native development: I don't write code by hand — I direct coding agents (Claude Code on Opus) as the implementation layer while owning architecture, methodology, and quality. **20+ years** of engineering give the systems judgment to design what should be built; daily agent practice gives the velocity to ship it.

CORE EXPERTISE

Agent Orchestration	Multi-agent systems architecture · Hierarchical orchestration patterns · Agents-as-tools · Inter-agent protocols · Recursive workflows · ReAct & plan-execute · Evaluation frameworks (public benchmarks + custom scenario suites)
AI-Native Development	Specification-driven agent development · Directing coding agents (Claude Code on Opus) end-to-end · Spec quality as the bottleneck · External-scenario evaluation · Operating at Level 4–5 of agentic engineering
LLM Engineering	RAG (chunking, hybrid search, reranking) · Vector embeddings (pgvector) · Prompt engineering · Structured output · MCP servers (Stdio, SSE, Streamable HTTP) · OpenAI / Anthropic / OpenRouter
Architecture	System design · API design · Data modeling · Security boundaries · Clean Architecture · SOLID · Event-driven · Performance trade-offs · Decomposition for testability and maintainability
Stack	Python (FastAPI, asyncio) · TypeScript · Node.js · React · Next.js · Vue / Nuxt · PostgreSQL (incl. pgvector) · Redis · Docker · CI/CD · Kubernetes (working knowledge) · GCP

SELECTED EXPERIENCE

Lead AI/LLM Architect

Mar 2025 — Present

Omic Inc · Remote (US-based biotech)

Lead AI architecture and implementation of autonomous AI systems for scientific research automation.

- ▶ **Own the architecture end-to-end:** system design, agent orchestration patterns, tool-use design, memory and state management, security boundaries, performance trade-offs — then lead the implementation that turns architecture into working software.
- ▶ **Built specification-driven agent development standards** that turn a written spec into a working agent rapidly and reproducibly. The methodology compresses the gap between idea and shipped agent and is the reason we move at the pace we do.
- ▶ **Built the evaluation framework:** measurement methodology spanning multiple public agent benchmarks (including FutureHouse's BixBench) plus custom internal scenario suites — the holdout set the agent never sees during development. The framework, not any single benchmark, is what tells us we're improving.
- ▶ **Built custom MCP servers** (Stdio, SSE, Streamable HTTP) bridging LLMs to proprietary tools and secure execution. Designed RAG pipelines over scientific corpora using PostgreSQL + pgvector. Enforced Clean Architecture, SOLID, DI, and comprehensive testing — directing Claude Code (Opus) as implementation layer while owning architecture and quality.

Senior Full-Stack & Founding Engineer · AI Products

Feb 2023 — Mar 2025

BOTTEC · WowCase · Contento · Independent / Contract

- ▶ **Architected and shipped multiple LLM-powered SaaS MVPs from zero:** AI consultation marketplace (Telegram bot + Flutter app), Contento (LLM-driven script generator with prompt orchestration), Telegram-integrated e-commerce platform with payments, logistics, and warehouse integrations. Sole engineer on all of them — design, implementation, integration, release.
- ▶ **Stack:** FastAPI + PostgreSQL + Celery backends, Vue/Nuxt frontends, prompt engineering and LLM integration end-to-end. Also built an AI-augmented multi-strategy trading system in Python + Docker.

EARLIER · 2005 — 2023

Real-time multiplayer games (Node.js + WebSockets) · Crypto trading bot (Python) · Browser strategy game with ~1,000 active players (LAMP) · 25+ web development client projects (1998–2020).

M.Sc. Computer Science · Novosibirsk State University · top Russian CS program · **English** working proficiency · **Russian** native

2001 — 2007