

Ioannis Karasavvaidis

Principal Software Engineer · Tech Lead

Belfast, Northern Ireland, United Kingdom · Open to UK & remote roles · No relocation

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Profile

Principal Software Engineer with 22+ years building enterprise SaaS end-to-end — backend, frontend, data, cloud, and security. Two-time founding engineer at Puppet (now Perforce): **Puppet Comply** (2020), then the multi-cloud **FinOps platform** at earlyaccess.puppet.com (2022, ongoing). Recent focus is AI-native engineering at team scale — authoring **Model Context Protocol (MCP)** servers and an agent-driven SDLC adopted across an 18-engineer organisation. In parallel runs **Studio110** — independent product engineering — with a Greek e-commerce platform in continuous production for 15+ years.

Selected Highlights

- **2 products from POC to GA-ready, Kubernetes-deployed SaaS** — founding engineer on Puppet Comply (2020 – 2022) and Puppet Early Access (2022 – present).
- **Built and tech-led an 18-engineer organisation from 5** — decision authority on every hire, mentored promotions from graduate through Principal, recognised cross-team interviewer across the Belfast product organisation.
- **Terabytes/day FOCUS-format billing ingest across 5 hyperscalers** (AWS, GCP, Azure, OCI, IBM Cloud); tens of billions of rows in ClickHouse OLAP; **zero production data-loss incidents**.
- **p95 query latency 20s+ → sub-second** end-to-end over billions of rows of OLAP data.
- **55 tickets to staging in 24 hours** on a recent freelance project via a 99% agentic AI workflow — proof point of the agent-driven SDLC.
- **Open-source MCP authoring** — `codex-mcp-server`, `second-brain-mcp`, plus custom MCP servers integrating internal company tooling.

Core Skills

Languages — Go (Golang), TypeScript, JavaScript, Python, Ruby, PHP, SQL, Bash

Frontend — React, Apollo Client, TanStack Router / Query, Tailwind CSS, Vite, Webpack, SCSS

Backend & APIs — Go microservices, GraphQL (Apollo Federation, gqlgen), REST, gRPC, WebSockets, event-driven architecture, service-to-service auth (S2S tokens), idempotency

Data & Streaming — ClickHouse (OLAP, materialised views, pre-aggregation, ReplacingMergeTree / FINAL, cross-region replication), PostgreSQL (GORM, schema-per-tenant), Redis (cache + reactive state), Apache Kafka (consumers, DLQ, backpressure, consumer-lag autoscaling), AWS SQS

Cloud & Infrastructure — AWS, GCP, Azure, OCI, IBM Cloud · Kubernetes, KEDA, Docker, Helm, Terraform, ArgoCD (GitOps), GitLab CI, GitHub Actions

Observability — Prometheus, Grafana, OpenTelemetry, Alertmanager, ELK Stack, OpenSearch

AI / Agentic Engineering — Claude Code, Model Context Protocol (MCP) server authoring, agentic SDLC, project-specific Claude skills, agent-driven code review, AI-augmented onboarding

Architecture — Multi-tenant SaaS, multi-cloud, FinOps, FOCUS specification, GitOps, event-driven architecture, SOC 2-ready, RBAC, OIDC / OAuth2, BYOC / customer-hosted deployment

Leadership — Technical direction across multi-service products, low-level design authorship, hiring through Principal, mentorship, cross-team interviewing, agile / feature-team leadership

Experience

Puppet (acquired by Perforce, 2022) · Belfast, UK · Oct 2017 – Present

Principal Software Engineer II / Tech Lead · Perforce · Aug 2022 – Present

Principal Software Engineer / Tech Lead · Puppet · Apr 2021 – Aug 2022

Senior Software Engineer / UI Tech Lead · Puppet · Jan 2020 – Apr 2021

Senior Software Engineer · Puppet · Oct 2017 – Dec 2019

- **Puppet Early Access** (earlyaccess.puppet.com) — multi-cloud FinOps platform: ingests cloud billing across AWS, GCP, Azure, OCI, IBM Cloud, normalises it via the **FOCUS** specification, surfaces spend analytics + optimisation recommendations, and **auto-generates Terraform pull requests** so customers apply cost-saving changes through GitOps. End-to-end owner of the FOCUS cost-data service and the React UI; LLD author for the 10+ Go and Python microservices behind them.
- **Multi-tenant isolation by design** — database-per-tenant in ClickHouse (per-tenant credentials), schema-per-tenant in PostgreSQL, async inter-service messaging over Apache Kafka, token-authenticated REST for synchronous S2S. SOC 2-ready architecture from day one. Currently architecting the **BYOC (customer-hosted)** deployment — dual SaaS + customer-managed Kubernetes from a single source tree.
- **GraphQL platform** — Apollo Federation supergraph composing ~7 Go subgraphs (gqlgen) behind an Apollo Router; GraphQL-codegen typings flowing into a React + TanStack Router UI. Reactive cross-service state surfaced over Redis pub/sub + WebSockets.
- **Ingest pipeline at scale** — dual-trigger (nightly scheduled + event-driven via AWS SQS) with async batched inserts; end-to-end idempotency via natural keys and ClickHouse `ReplacingMergeTree FINAL`. Introduced **KEDA** to scale the FOCUS parser fleet from 0 → N on SQS / Kafka backlog, with backpressure, DLQ, and retry semantics for resilient burst handling.
- **Analytics performance** — combined ClickHouse materialised views, pre-aggregation tables, Redis result caching, and service-layer query rewriting to make a richly filterable analytics UI responsive over billions of rows.
- **Owned the team's AI-native SDLC** — implemented the full pipeline (ticket → low-level design → epic / spec → plan → review → PR → code review → CI → merge → follow-up). Authored the project `CLAUDE.md`, set up project-specific Claude skills, and built custom MCP servers integrating internal tooling. Ran hands-on enablement and training across the org as the team grew from 5 to 18.
- **Earlier in the arc — Puppet Comply** (founding architect; took the compliance SaaS from POC to GA-ready Kubernetes deployment; established the deployment platform, CI/CD, and full-stack testing infrastructure) and **UI Tech Lead, Puppet Comply** (TypeScript + React component library, state-management and API patterns, frontend CI/CD, error tracking, FE coding standards). Earlier still: frontend lead on **Puppet Discovery / Remediate** (Docker Swarm), driving UI tech decisions and mentoring engineers across the product.

Studio110 — Founder & Principal Engineer (self-employed, in parallel)

February 2009 – Present · Belfast / Thessaloniki · Remote

- **Founding engineer and 15+ year maintainer of efantasy.gr** — a Greek e-commerce platform with 50,000+ SKUs across 37 categories, shipping to 70 countries. Designed the high-availability cluster from scratch and the ERP-to-storefront integration bridge (ERP as source of truth, real-time sync to multiple storefronts); continuous feature and bug-fix delivery for **15+ years in production**.
- **Cross-domain delivery** across e-commerce, payment gateways, ERP integration, custom CMS, streaming media (web radio, web TV, mobile broadcasting), VPS / cloud infrastructure, and LAN / WAN network security. Built and supported distributed dev teams — interviewing, mentoring, code review, engineering standards.

Earlier Roles

- **IBM** — Frontend Developer · Belfast · Jan – Oct 2017 — Architected and maintained **QRadar** security applications. Designed CI/CD with GitLab CI, automated dev-environment setup via Docker and Bash. Delivered secrets encryption, modular proxy systems, and application isolation; built unit / E2E / automated validation testing infrastructure and contributed to shared frontend standards across QRadar.
 - **RepKnight** — Frontend Engineer · Belfast · Jun 2016 – Jan 2017 — Led modernisation of a legacy PHP application into a real-time React platform. Designed real-time data-visualisation dashboards with WebSocket communication and a custom Node.js bidirectional bridge server; managed the end-to-end migration while maintaining system availability.
 - **Earlier (2000 – 2016, Greece + Belfast) — ARRIS / Pace plc** (set-top-box UI on resource-constrained devices, performance optimisation, hardware-team collaboration), **UpMate Business & Internet Solutions** (architected the Easy Admin CMS and Dynamic Action Suite flagship PHP CMS; initial build of efantasy.gr; ERP integrations, RBAC, multi-store management), **Radiothessaloniki / Eroticos FM** (full-stack web, DB systems, mail / AD / SQL / gateway server operations), and **Net Fans Internet Station** (server infrastructure, gaming server environments, dynamic web apps).
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Open Source & Public Work

- [codex-mcp-server](#) — Model Context Protocol (MCP) server that exposes the OpenAI Codex CLI to any AI client (e.g. Claude Code), enabling agent-to-agent collaboration.
 - [second-brain-mcp](#) — Personal knowledge MCP server.
 - **GraphQLens** — Browser extension to mock GraphQL queries for frontend-without-backend development. **GitHub Conventional Comments** — Browser extension for PR reviewers (conventional-comments format).
 - **Neovim plugins** and **GitHub Actions** — authored and contributed across multiple projects. Personal sites: [netfans.gr](#), [strongpasswordmeter.com](#).
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Education & Languages

IEK DELTA Thessaloniki — Diploma, Telematics Engineer · 2001 – 2003 · **Languages** — Greek (native / bilingual), English (full professional)