

James Murphy

Principal Engineer — AI Platforms

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Principal engineer with 20 years building SaaS platforms, contact-centre systems and voice applications. Over the last year developed an AI analytics platform's anomaly-detection process, an AI-led investigation process, the AI pipeline that writes findings, an MCP server for AI agents, shared platform libraries and a Swift port, with the design reviews, standards and continuous deployment around them. Works in TypeScript, Swift and Python on AWS.

EXPERIENCE

Paretio · Principal Engineer

Oct 2025 – Oct 2026

Analytics platform that helps businesses understand changes in their customer ticket data.

- Led development of the **AI root-cause analysis pipeline**, which investigates a change in a customer's ticket data and writes a finding with evidence, an estimate of business impact and recommendations.
- Built **anomaly detection** in Python to find tickets with unusual metrics in ClickHouse event data, growing it from one Lambda into a parallel Step Functions workflow over DynamoDB and Neptune.
- Built the **Paretio MCP server** in TypeScript, giving AI agents secure, read-only access to the company's analytics, infrastructure and development systems, with input validation, steering errors and secret redaction.
- Built shared **TypeScript** tooling for data models, deployments and code standards, published to npm with OIDC trusted publishing, and rolled out trunk-based continuous deployment across services.
- Rehosted the pipeline as checkpointed **AWS Lambda durable execution** steps with at-most-once writes, so a run outlasts Lambda's 15-minute limit without repeating work.
- Ported the core analytics pipeline to **Swift** to allow AI to reason about the whole pipeline in one place; local runs also went from hours to minutes.
- Wrote design RFCs reviewed before anything was built; reviews of colleagues' plans led to adopted changes such as pre-registered acceptance criteria and a per-run cost limit.
- Used **Claude Code** and **Codex** throughout, directing implementation and taking responsibility for architecture, system design and code review.

Cyara · Technical Lead — Integrations

Oct 2022 – Jul 2025

B2B SaaS platform for testing and load-testing contact-centre and customer-experience systems.

- Gave technical direction to a **team of six** building the agent integrations, including Genesys and Amazon Connect, that let the platform simulate contact-centre agents for large organisations including Apple.
- Set the **OpenAPI** standards for the move from monolith to microservices, starting with a rebuilt API: modular OpenAPI 3.1 specs, a breaking-change check in CI and tests through generated clients, on .NET 8 containers on ECS.
- Designed the move of about 17 agent integrations (Genesys, Cisco, Avaya, Amazon Connect, Twilio Flex, NICE CXone and others) from .NET Framework to modern .NET on Linux.
- Built a **Swift and PJSIP** application to test Apple's "Shop with a Specialist" launch with **1,000 concurrent 720p video agents**: H.264 video and audio over SIP with SRTP, run at 500 per machine.

Global Speech Networks · Solution Architect

Oct 2017 – Jul 2022

Hosted Genesys contact-centre platform in Melbourne and Sydney. At GSN from Mar 2016 as InProd's contractor; employee from Oct 2017.

- Designed and delivered hosted Genesys contact centres, from design to go-live, for customers including **MYOB**, the **Victorian Department of Education** and **Queensland Rail**.

- Automated infrastructure and application deployments with **Ansible** and InProd, enabling the same team to onboard **3–4 customers in the time previously needed for one**; trained four engineers on it.
- Secured GSN's own IP range and AS number and designed the carrier connection with BGP on F5, enabling Melbourne–Sydney failover with **zero dropped calls and less than five seconds of silence**.
- Consolidated **six carriers into one SIP provider**. Migrating the mobile numbers alone saved an estimated **\$214k a year**.

InProd · Founding Engineer

2014 – Oct 2017

- First and lead developer of a configuration-management and auditing product for Genesys (change sets, audit trail, rollback, lab-to-production promotion): a Java Platform SDK service, a Django REST API and an Ember.js interface.
- Packaged it for customer installs as CentOS RPMs with per-customer repositories, with Docker and Ansible builds of InProd and Genesys environments.

EARLIER

Telstra, Contact Centre Engineer (Sep 2012 – Oct 2014): engineer on Sensis's high-availability Genesys deployment, and Genesys reporting and SIP Server work for federal government customers. Four Genesys 8 certifications.

Engage, Technical Lead — Founding Engineer (Nov 2009 – Sep 2012): early employee at a hosted contact-centre startup later acquired by LivePerson. Built a queue callback service, a Java softphone and a reporting portal with custom reports in under 10 seconds; rolled Puppet out across 80+ servers in two locations.

Salmat, Software Developer, R&D and Reporting (Nov 2005 – 2009): moved from the phones into R&D. Cut nightly reporting from over two hours to under five minutes, and built C# tools on the Genesys Platform SDK.

PROJECTS

OriginKit (Swift · 2026) — Zero-dependency web, DNS and mail server in pure Swift, with hand-written HTTP/1.1, TLS and mTLS, streamed compression, an S3 client and a load generator. Serves jmurphyau.com.

Ask (Swift · CUDA · 2026) — Pure-Swift LLM runtime that runs Qwen3-8B on an RTX 3090 through cuBLAS and runtime-compiled kernels, with its own tokenizer and a cached prompt prefix, verified against the reference implementation's tokens and logits. Answers the career questions at r.jmurphyau.com.

PageKit (Swift) — Declarative PDF layout library with automatic pagination, bookmarks and links. Used to produce this resume.

ember-truth-helpers (Ember.js · open source since 2015) — Created this Ember add-on, now community-maintained, with 700+ GitHub stars and over 7 million npm downloads a year. Also contributed to Ember.js core, Ember Data and FastBoot.

SKILLS

Languages — TypeScript, Swift, Python, C#, Java

AI — LLM pipelines and agents, MCP servers, OpenAI Responses API with structured outputs, Claude Code / Agent SDK, Codex

Platform — Node.js, AWS (Lambda durable execution, Step Functions, ECS, IAM), Terraform, GitHub Actions, Buildkite, npm packaging, Docker, Linux

Data & observability — ClickHouse, DynamoDB, Neptune / Gremlin, PostgreSQL, JSON Schema, OpenTelemetry

Voice — SIP, RTP/SRTP, WebRTC, PJSIP, Genesys, Amazon Connect

Certifications — AWS Certified Solutions Architect – Associate · Genesys 8 Platform SDK, Info Mart, e-Services and SIP Server