Trenton Mcfarlane

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SOFTWARE/AI ENGINEER | CLOUD ARCHITECT | ENGINEERING ENABLEMENT

AI and software engineer who builds production AI systems, the cloud platforms they run on, and the practices that help engineering teams use AI well. Has built AI agents, RAG systems, copilots, and enterprise AI infrastructure at Microsoft, Alaska Airlines, and Insight, including an AI Landing Zone used by 100+ application teams. Works across the full stack, from Azure architecture, identity, and network isolation to data integration and the user interface, with governance and observability built in. Teaches engineers practical AI-assisted development workflows and has led and mentored about 15 developers since 2017.

EXPERIENCE

Insight - Forward Deployed Engineer | AI Architect - *Contract - Remote* April 2026 to Present

Technologies: Azure Durable Functions, Python, .NET, Angular, Databricks, Salesforce, Azure AI, GitHub Copilot

- Lead development of a Fortune 500 energy client's business-development AI work. The first agent helps sellers identify the right stakeholders for new deals inside the tools they already use.
- Built the product featured in an onstage demo by the CEOs of Insight and the client. Now preparing its pilot for 50 business-development users, on a system designed to scale to 1,500+.
- Grew the team's weekly feature demos into end-to-end motion-design videos that reached leadership and earned the team recognition at the account level.
- Adopted GB300 infrastructure early for the project's AI development, and shared practices with other teams on keeping AI costs down.
- Automated PR review follow-through with checks drawn from past stakeholder feedback and team coding standards, helping changes move through team and client review.
- Produced narrated PR walkthroughs with before-and-after architecture and data-flow diagrams, so reviewers can see what each change does.
- Formalized a pilot of a T3 Code fork that provides a shared AI development environment across providers and connects to client and Insight workstations. Integrated an agent harness and engineering best practices so teams can use the same workflow in either environment.
- Set up an Azure AI landing zone that gives Insight a repeatable path for AI deployments.
- Built a low-cost project wiki that turns client project materials into searchable documentation with embedded chat.
- Trained engineers on practical GitHub Copilot workflows using the subscriptions they already have.

Alaska Airlines - Senior AI Architect - *Remote/Hybrid - Seatac, WA* March 2025 to April 2026

Technologies: Azure OpenAI, Azure AI Foundry, APIM, TypeScript, Python, RAG, Teams AI, Terraform, Azure AI Search, Container Apps

- Founded Alaska Airlines' AI Operations Program: reviewed 30 AI projects in 2 months, consolidated 60 AI instances into 25, and saved $2M.
- Built the enterprise AI Landing Zone, now the core path to AI for product development and used by 100+ application teams; cut AI access from 2 weeks to 2 days.
- Built permission-aware access controls for the NavAIgate Agent Marketplace, checking access at both the index and data level, with OpenTelemetry tracing to Langfuse and Grafana.
- Co-built an incident investigation agent that finds the closest past fix, cutting cloud incident resolution from 3 days-2 weeks to minutes-a few days.
- Developed reusable enterprise AI patterns for identity, network isolation, observability, AI gateways, and secure deployment, and partnered with engineering, cybersecurity, and governance as part of the AI product approval process in a highly regulated enterprise.

Microsoft - Senior Software Engineer - *Remote/Hybrid - Redmond, WA* May 2022 to March 2025

Technologies: Azure OpenAI, React, TypeScript, Python, C#/.NET, RAG, Three.js, Speech AI

- Led engineering across six AI-driven initiatives spanning copilots, recommendation systems, evaluation frameworks, and conversational AI experiences.
- Built Skill Plan Assist (now AI Skills Navigator), an AI recommendation engine that cut training-plan creation for 2,000-10,000+ employee customers from 3-4 months to under 2 weeks.
- Built SalesCoach AI Agent, a real-time conversational AI sales simulator using Azure OpenAI, RAG, speech synthesis, speech recognition, and interactive avatar experiences.
- Created LLM AccuCheck, an internal tool for checking LLM output accuracy that improved AI-generated content accuracy by 40% and resulted in a patent filing.
- Authored the Container Cookbook, guidance for moving workloads from VMs to containers that moved 4+ teams to container-based workflows and drove $1M+ in Azure savings.
- Pitched and demoed initiatives to win internal funding, presented to executive leadership including Judson Althoff, and gave keynotes on practical LLM adoption to 500+ stakeholders.

AIM Consulting - Senior Software Engineer - *Remote - Seattle, WA* Sept 2020 to Feb 2022

Technologies: Node.js, PostgreSQL, AWS, OAuth, Azure AD B2C, CI/CD

- Led backend architecture for a multi-tenant healthcare pricing platform on Node.js and AWS, with secure APIs, CI/CD, and OAuth that sped up deployments by 40%.

GE Healthcare - Software Engineer - *Hybrid - Seattle, WA* Nov 2017 to Sept 2020

Technologies: AWS, Apigee, Python, DynamoDB, DICOM, API Platforms

- Scaled GE Healthcare's API ecosystem to 1.6M monthly calls, onboarding 20+ teams while supporting Apigee microgateway, Kubernetes, Helm, and hospital data center deployments.
- Built DICOM ingestion pipelines supporting machine-learning diagnostic workflows.
- Developed policy validation tooling for secure, compliant healthcare data ingestion.

SELECTED PROJECTS

Support Triage Agent - HackerRank AI Agent Hackathon - 2026 Open-Source: Support Triage Agent

Built an AI support triage agent that took 8th place of 1,349 teams using hybrid RAG (Recall@5 of 1.000 vs 0.714 for keyword-only search), grounded responses, structured outputs, and escalation workflows.

TEAM AVATAR - Multi-Agent Orchestration Framework - 2026 Open-Source: team-avatar

Built an open-source agent orchestrator for Claude Code, Codex, and Cursor: nine Avatar characters, each owning an engineering discipline, backed by 58 engineering skills and a public eval suite (29 of 29 routing cases on Claude Code and Codex, plus a SWE-bench Verified Mini comparison). 110+ GitHub stars.

ReplyGuy - AI-Powered Communication Assistant - 2026 Product: replyguy.zeroclickdev.ai

Built an AI-powered Chrome extension for LinkedIn and Gmail that generates voice-aligned replies, personalized outreach, and batched engagement workflows with subscription billing and usage metering.

ZeroBoard - AI-Powered Kanban Board - 2026 Website: board.zeroclickdev.ai

Built an AI-native Kanban platform that allows users to manage projects through natural conversation, AI-assisted planning, collaborative workflows, and intelligent task generation.

FlowChart - Visual AI Workflow Builder - 2026 Website: flowchart.zeroclickdev.ai

Created a visual workflow platform for generating technical diagrams, AI-assisted architecture flows, and interactive system visualizations with Azure service integration.

Microsoft Learn - Lab Manager - 2022 Link: Example of Launching Labs with Skillable

Built the React/TypeScript lab experience for Microsoft Applied Skills, enabling real-time certification from third-party VM labs and reducing a 48-hour process to instant completion.

TECHNICAL SKILLS

AI Coding Agents & Developer Tools: Claude Code, Codex, Cursor, T3 Code, GitHub Copilot, v0 by Vercel, MCP, A2A, multi-agent orchestration, agent skills

Agentic AI & LLM Engineering: Azure OpenAI, OpenAI APIs, OpenAI Realtime API, LangChain, LangGraph, LlamaIndex, Semantic Kernel, AutoGen, CrewAI, Teams AI, tool calling, structured outputs, AI evaluations, LLM output accuracy checks, model routing, AI governance, AI observability

RAG & Retrieval: Azure AI Search, Pinecone, pgvector, Elasticsearch vector search, embeddings, reranking, hybrid search, semantic caching, chunking, ingestion pipelines

Voice, Multimodal & Browser Agents: Speech AI (speech synthesis and recognition), Edge TTS, interactive avatars, voice agents, multimodal pipelines, Playwright, Browserbase, Stagehand, Firecrawl, computer-use agents, Chrome extensions

Frontend & AI Interfaces: React, Next.js, Angular, Vite, Tailwind CSS, shadcn/ui, FluentUI, Framer Motion, TanStack Query, Three.js, streaming AI UIs, websockets, realtime collaboration, canvas systems

Backend & APIs: TypeScript, JavaScript, Python, C#/.NET, Java, Node.js, Express, Azure Durable Functions, REST APIs, event-driven systems, API platforms (Apigee), Stripe (subscription billing, usage metering)

Cloud & AI Infrastructure: AI landing zones, AI gateways, Azure AI Foundry, Azure API Management, Azure Container Apps, AWS, AWS Bedrock, Vertex AI, Kubernetes, Docker, Helm, Terraform, Cloudflare Workers, Cloudflare AI Gateway, OpenRouter, Vercel AI SDK, GitHub Actions, CI/CD

Networking & Security: Tailscale, network isolation, OAuth 2.0, OIDC, SAML, JWT, SSO, Azure AD B2C, PingFederate, MSAL, Microsoft Graph, RBAC, conditional access, secrets rotation, SOC2, ISO 27001, HIPAA

Data & Integrations: PostgreSQL, Supabase, SQL, CosmosDB, MongoDB, Redis, DynamoDB, RabbitMQ, SQS, Databricks, Salesforce, DICOM

Observability: OpenTelemetry, Langfuse, LangSmith, Grafana, Prometheus, Application Insights, Datadog

EDUCATION

Central Washington University - B.S. in Computer Science, Minor in Mathematics Graduated June 2015