

Michael Knowles

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Summary

Staff software engineer with 10+ years of experience across full-stack product development and distributed systems, most recently architecting a Model Context Protocol (MCP) AI-agent platform, spanning both client and server with OAuth 2.1 on each, connecting Glue with external agents like Claude and ChatGPT. Known for owning problems end-to-end, from architecture and performance work to incident response and mentoring, with a focus on quality and maintainability.

Skills

- **Languages:** Go, TypeScript, JavaScript, Java, C#
- **Frameworks:** React, Node.js
- **Data:** SQL, NoSQL, Postgres, Microsoft SQL Server
- **Infrastructure:** Docker, Terraform, AWS, Google Cloud, Azure

Work Experience

Glue

Senior Software Engineer

Sep 2024 — Present

- Architected and shipped Glue's integrations with the Model Context Protocol (MCP), building both server and client: an MCP server, an OAuth 2.1 authorization server and agent tool surface making Glue addressable by external agents like Claude and ChatGPT; and an MCP client, connecting Glue out to third-party MCP servers handling ~40,000 tool calls/day
- Owned the third-party integrations platform end-to-end, shipping 12+ production integrations (GitHub, Zoom, Google Workspace, Linear, Notion, Jira) driving ~6,000 app installs
- Drove the engineering execution of a company-wide infrastructure cost reduction: audited services, removed redundant vendor dependencies, and re-platformed the legacy RAG pipeline
- Implemented production secrets management (SOPS) and security response, including same-day remediation of customer-escalated security issues
- Re-architected the notification pipeline onto an asynchronous background-task queue, improving request latency and delivery reliability, and enhancing the messaging platform's data model
- Rebuilt platform observability with distributed tracing and structured logging, used to diagnose and resolve production incidents
- Reviewed 1,400+ pull requests as a top-2 reviewer on every core repository while serving as the escalation point for cross-team integration and production incidents
- Drove backend performance optimizations (indexing, N+1 elimination, query-planner tuning) that cut p95 query latency from 96ms to 10ms on a platform serving 42,000+ users and 33M+ messages

AIQ

Staff Software Engineer

Apr 2021 — Sep 2024

- Promoted from Senior Software Engineer, January 2023
- Led a team of engineers developing a SaaS platform in Go, Node, React, and Google Cloud. The platform analyzes \$24 billion in sales annually, and sends 2 billion messages annually; it peaked at over 2,100 requests per second and 134,637 messages sent per second
- Architected a monolith into microservices, establishing unit/integration tests along with feature flags to ensure behavior parity
- Led the database migration to Google Bigtable and Postgres to reduce latency, facilitate scalability, and enable new feature development
- Introduced a CI pipeline with automated linting, testing, and non-production environments, leading to lower incident rate and code churn
- Implemented observability using OpenTelemetry, Sentry, and Google Cloud tooling, utilizing profiling, tracing, and logs to debug and fix production incidents
- Added SSO and RBAC for users to meet requirements for SOC 2 and HIPAA compliance

Blue Shield of California

Application Developer

Jan 2019 — Apr 2021

- Created vendor-facing REST APIs used to query and load data in near real time instead of daily/weekly batches using Java Spring and Oracle SQL
- Re-architected Java and Informatica applications, improving performance by up to 50%
- Created a library and utility in Go to parse and validate Informatica workflows
- Developed a program to validate production deployments and sync environments using Python, reducing manual work and improving accuracy, saving over 30 hours per release
- Formed a collaborative team knowledge base for onboarding and team documentation using Confluence
- Piloted the transition of the business to Agile from Waterfall

SAI

Developer

Jun 2016 — Sep 2018

- Developed features and debugged software written in C++, C#, and Javascript, and supported client IT teams with on-site devices
- Analyzed millions of call detail records (CDR) using Bash/Python scripts and Tableau to help clients pinpoint issues in their data

DSD Solutions

Developer and System Administrator

Jan 2013 — Sep 2016

- Designed and developed client websites (WordPress, CakePHP, Symfony, jQuery) while managing the system and network infrastructure that ran client applications, websites, and email