
Michael Knowles

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SUMMARY

Highly dedicated and analytical staff software engineer with over 8 years of experience in software development and data analysis. Proficient in architecting and implementing solutions to complex problems, with a focus on quality and maintainability. Adept at working cross functionally and mentoring junior team members to bring about the best product possible.

SKILLS

Go, Javascript, Typescript, Java, Docker, SQL, NoSQL, React, Google Cloud

EXPERIENCE

Alpine IQ - *Staff Software Engineer*

April 2021 - PRESENT

- 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 trillion in sales annually, and sends 2 billion messages annually; it peaked at over 2100 requests per second and 134,637 messages sent per second.
- Mentored junior engineers, fostering skill development and knowledge sharing within the team
- Architected a monolith into microservices
 - Established 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
- Developed ETL pipelines utilizing Clickhouse and Change Data Capture for efficient processing
- Introduced a CI pipeline to ensure software quality with automated linting, testing, and the usage of non-production environments leading to lower incidence rate and code churn
- Implemented observability to better inform developer decisions and speed up incident/ticket resolution using OpenTelemetry, Sentry, and Google Cloud tooling
 - Utilized profiling, tracing, and logs to debug and fix production incidents
- Collaborated with cross-functional teams to gather requirements and provide technical guidance, ensuring alignment with business objectives
- Implemented SSO and RBAC for users to meet requirements for SOC 2 and HIPAA compliance
- Cooperated with third party vendors to develop dozens of seamless integrations
- Met directly with clients to gather requirements and feedback for future platform developments

Blue Shield of California - *Application Developer*

January 2019 - April 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%

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- Created a library and utility in Go to parse and validate Informatica workflows (partial source available at <https://github.com/michaelknowles/InformaticaUtilGo>)
 - Created tooling for unit test case creation and logging using React, Node.js, and OracleDB
 - Developed a program to validate production deployments and sync environments using Python. Reduced manual work and improved 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*

June 2016 - September 2018

- Developed new features and debugged software written in C++, C#, and Javascript
- Supported client IT teams to install, configure, and maintain on-site devices
- Analyzed millions of call detail records (CDR) using BASH/Python scripts and Tableau to help clients gain valuable insight into their data and pinpoint issues

DSD Solutions - *Developer and System Administrator*

January 2013 - September 2016

- Managed the system and network infrastructure that ran client applications, websites, and email
- Worked directly with clients to design websites according to their specification
- Developed websites using a variety of technologies based on the client requirements such as WordPress, CakePHP, Symphony, JQuery, and Javascript