Zach Morgan

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Software engineer creating business value through thoughtful, scalable design, and code that is clean, modular, and well-tested. Elevates teams through ownership, leadership, communication, and investment.

Skills

Languages	**Libraries/Frameworks**	**Platform/Tooling**	**Data/Network**
TypeScript, Ruby, Go/Golang, SQL, JavaScript, HTML, CSS	Node.js, Express, Rails, React, Angular, Redux, RxJS, Sinatra, Cypress	AWS, Terraform, Docker, GitHub Actions, Linux, Git, Digital Ocean, Fly.io	GraphQL, REST, HTTP, TCP/IP, UDP, PostgreSQL, DynamoDB, MongoDB

Experience

Machine Research, *Software Engineer*   02/2024 – present
- Created CI/CD pipelines with GitHub Actions and Terraform which led to improved QA and DX by automating unit tests, end-to-end acceptance tests, and infrastructure configuration.
- Designed a web service using Terraform and AWS Lambda which enabled Cypress tests to configure backend state in AWS Cognito and DynamoDB using a simple API.
- Delivered user stories in TypeScript, Angular, RxJS, Redux, GraphQL, Lambda, and DynamoDB.

Capstone Project: Signet ⧉   2023
Drop-in framework for automating contract tests in CI/CD (*https://signet-framework.dev* ⧉).
- Led the design and implementation of a Golang agent that provisions cloud infrastructure, proxies API calls, performs API verification, and records deployment and test data.
- Developed Infrastructure-as-Code for a Command Line Interface to provision 24 autoscaling infrastructure components on AWS *(Docker, AWS: CloudFormation, EC2, ECS, ELB, IAM, SDK)*.
- Designed a Node.js backend and REST API to support a React dashboard and CI/CD integration.
- Created a webhook service that enabled event-driven CI/CD workflows.
- Adapted an open source HTTP proxy to verify client services by recording API calls.
- Scripted platform-specific distribution and installation using GoReleaser, NPM, and Docker.
- Wrote unit and integration tests in Go and JavaScript.
- Implemented per-test SQL transactions which eliminated flakiness in 100% of stateful tests.
- Conducted code reviews for a fully remote engineering team using Git/Github.
- Authored the documentation (*https://signet-framework.dev/docs* ⧉) and a white paper (*https://signet-framework.dev/case-study* ⧉) analyzing the problem domain.

Education

Launch School, *Capstone Graduate* ⧉   2021 – 2023
Highly selective software engineering program focused on mastery of first-principles.
- Led study sessions covering networking, database design, and Object-Oriented programming.

Oregon State University, *B. S. in Biochemistry and Molecular Biology*   2015 – 2020
Programmed biophysics simulations to model the folding of synthetic proteins.