

Landon Gibson

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SUMMARY

Experienced Infrastructure Engineer with a proven track record of designing, building, and optimizing cloud-based solutions on AWS. Proficient in automating workflows and enhancing scalability in infrastructure ecosystems. Committed to driving excellence in infrastructure, governance, and alignment with organizational objectives.

EXPERIENCE

Software Engineer

Sept. 2022 - Present, Los Angeles

Alo Yoga

- Designed a streamlined Terraform repository structure and devised a migration strategy from a Terragrunt monorepo.
- Strategized and executed the migration of critical DNS infrastructure and production data from DigitalOcean to AWS with zero downtime.
- Wrote an RFC, planned the units of work, and assisted in executing the creation of a standard CI/CD process for production APIs. This facilitated the organization's transition from GitFlow to trunk-based development.
- Implemented multi-region active-active serverless deployments, improving reliability of services to 99.999% from 99.99%.
- Led the creation of Alo's first P1 and P2 incident playbooks in collaboration with product engineering. This reduced MTTR from 45 minutes to 15 minutes by enabling engineers to rapidly respond to critical incidents.
- Recognized an opportunity to reduce load on high-traffic services. Collaborated with product engineers to introduce caching, leading to a 55% reduction in load at the origin.
- Migrated production critical services from Kubernetes to AWS Lambda with zero downtime, allowing developers to self-service deployments and saving the infrastructure team hours of maintenance monthly.
- Crafted our documentation strategy and supervised the creation of essential documentation on AWS, ML workflows, CI/CD, monitoring, and observability. This empowered developers to self-service their AWS setup and CI/CD debugging.
- The Lambda infrastructure and auto-scaling policies I implemented handled peak Black Friday traffic without negatively impacting the 99%-tile response time or error rate, supporting revenue equivalent to that of the prior calendar year in a week.
- Planned and coordinated two major upgrades of EKS clusters running production critical services with zero downtime or incidents.
- Led the writing of 15 RFCs that shaped organization-wide decisions on security, infrastructure, migrations, reliability, and documentation.
- Mentored product engineers on service architectural paradigms and infrastructure as code via RFCs, pair-programming, and educational presentations.
- Prototyped hybrid vector search integrating Elasticsearch with product content embeddings, boosting search result relevance and paving the way for real-time, user recommendations.
- **Skills:** Terraform, Github Actions, AWS, EKS, ECS, Python, FastApi, NewRelic, Cloudwatch

Data Scientist

Sept. 2021 - Sept. 2022, Los Angeles

Alo Yoga

- Led the development of a standardized ML platform for both development and deployment. This innovation reduced the production time for models from 4 weeks to 30 minutes by standardizing machine learning infrastructure and CI/CD and by empowering data scientists to self-initialize infrastructure.
- Pioneered the monitoring process for machine learning models, introducing automated alerting for batch model failures. This initiative reduced MTTA from approximately 1 day to just 15 minutes.
- Mentored data scientists and analysts on applying software engineering and statistics covering essential tools and concepts like git, bash, docker, probability theory, and experimentation techniques.
- Drove efficiency gains in the experimentation program by building a tool for estimating required traffic share and runtime for a given experiment, and a python library with standardized metrics for analyzing experimentation results. This led to a 9-fold increase in experimentation velocity.
- Oversaw communication and interpretation of experiment results across the organization, ranging from all-hands meetings to engagement with the C-Suite.
- Co-led the development of our data warehouse with my Data Engineering counterpart which successfully enabled data scientists and analysts to self-service tables with DBT.
- **Skills:** Python, SQL, A/B Testing, Forecasting, Business Analytics, Github Actions, Terraform, CI/CD, NewRelic, CloudWatch

Research Scientist

California Policy Lab

Sept. 2020 - Sept. 2021, Los Angeles

Data Science Fellow

Insight Data Science

May 2020 - July 2020, Los Angeles

Graduate Researcher

UCLA Center for Health Advancement

Sept. 2016 - May 2020, Los Angeles

PROJECTS

LibRSS

Personal

- **Backend & Frontend Development:** Developed the backend using FastAPI and leveraged HTMX for serving dynamic frontend HTML, without requiring client-side scripting.
- **Advanced Search Capability:** Integrated the OpenAI SDK with Pinecone to facilitate similarity-based searches, enabling users to employ common language queries for retrieving relevant articles or discovering new content.
- **AWS Infrastructure:** Hosted the application using AWS Lambda, ensuring scalability and responsiveness, and fronted Lambda with AWS API Gateway and Cloudfront.
- **Rapid Prototyping & TDD:** Utilized Moto to mock AWS services, for local development and testing without the complexity and cost of querying a live database.
- **Efficient Indexing:** Achieved significant reductions in indexing time by implementing parallel processing across multiple feeds, optimizing for both performance and resource utilization. Coupled with auto-scaling capabilities via AWS Lambda, this ensures the system efficiently handles varying loads.

EDUCATION

Ph.D. Quantitative Health Policy & Management

University of California, Los Angeles 2020

Thesis: "Causal Inference - Beyond Difference-in-Difference"

Research Focus: Studied approaches for improving the validity of a quasi-experimental method, difference-in-difference, and applied them to assess the impact of Medicaid Expansion on state spending from 2014 through 2017.

B.S. Biological Sciences

University of California, Irvine 2013