

James A. Gibson

Software Engineer and Architect

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Profile

With a decade of experience in software, predominantly within the health care industry focusing on genomics, I specialize in building software that emphasizes enterprise architecture and systems based on microservices in AWS. My work is conducted in regulatory environments and spans the entire software development lifecycle, from ideation and feature design to development, testing, deployments, and documentation. I am passionate about working in lean and effective small teams. I adopt domain-driven design principles for software development. I am proficient in Python and HashiCorp Configuration Language and have worked with other programming languages.

Experience

2021–2024 **Software Engineering Lead**, *Genomic Life*, La Jolla, CA

- Tech Stack: AWS, Terraform, Python, Kafka, Docker, Serverless Framework, Auth0
- Built foundational elements as the first internal software engineer. Assumed roles in DevOps, software architecture, and backend software engineering while acting as lead on different projects. Teams sizes ranged from 2-4 engineers, and I interfaced with colleagues from other departments in the business (e.g. Compliance, Business Systems, Clinical).
- Reporting Platform. The platform receives PDFs from genetic testing partners. The platform classifies information about the reports based on the PDF contents, performs quality control to ensure no HIPAA violations occur (as when a partner sends incorrect information), anonymizes reports using the Safe Harbor method, and finally extract genomic data from anonymized reports for internal data use by geneticists. The platform includes monitoring, the ability to rerun services on documents, and what is effectively a data lake in S3 for data reuse with versioning. Work started in April 2024 and finished in August 2024 for a two person team. Tech: Textract, Docker, SNS, SQS, KMS, IAM, CloudWatch, DynamoDB, Lambda, Python.
- Event Streaming Platform. Using Kafka for cross system communication, I designed and built the platform to handle user authentication and authorization, fault tolerant patterns, data standards for topics and messages, and delivered producers and consumers. I led a three person team to deliver this within six months for the variety of use cases the business wanted. Tech: AWS MSK, DynamoDB, SQS, SNS, IAM.
- Member Data Platform. I designed, built, and tested a RESTful API to power the primary customer interface for "member" data. The development and testing was delivered entirely by me over a two month period. Over an additional month I performed the data cleaning and data migration from Salesforce to MDP to support legacy customers. Tech: FastAPI, Python, DynamoDB, Aurora Serverless MySQL, Auth0, Lambda.
- Design and implementation of services for Salesforce interactions, writer services using NoSQL databases, and a large list of smaller services moving data from one system to another.
- DevOps work. Supported the Compliance Department to ensure that the business could pass HITRUST accreditation, which included things like ensuring best security practices are followed, backups for cross account and cross region outages. Developed CI/CD leveraging GitHub Actions + OIDC and IAM roles, AWS user management for internal employees and external contractors, AWS integration with AWS Private Certificate Authority and IAM Roles Anywhere, designed AWS account segregation for the AWS Organization for the business.

- 2019 **Senior Software Engineer**, *Invitae*, San Francisco, CA
- Tech Stack: Python, Django, Docker
 - Addressed bug fixes and refactored code to accommodate workflow team requirements.
 - Transitioned from the role due to personal circumstances after five weeks.
- 2015–2019 **Senior Software Engineer**, *Human Longevity Inc*, La Jolla, CA
- Tech Stack: AWS, C#, JavaScript, Python, Terraform, Vault, Docker, Kubernetes, Serverless Framework
 - Began as a Software Development Engineer in Test, focusing on testing secondary analysis workflows based on genomic data and various APIs.
 - Transitioned into development, designing data ingestion systems on AWS, Docker, and Kubernetes for petabyte scale data.
 - Design and built a data lake and API interface catering to machine learning experts and data scientists, including building a data catalogue to query the location of data and its properties.
- 2014–2015 **Junior Software Engineer**, *topLingo*, Irvine, CA
- Tech Stack: .NET MVC C#, JavaScript, jQuery, Bootstrap, Objective-C.
 - Began as an intern after teaching myself to code after six months.
 - Initial work with on HTML and CSS, and VB Script.
 - Worked on websites for clients including Disney Auction.
 - Refactored a massively broken iPhone application built by another company.

Education

- 2013 **M.A. Philosophy**, *University of California, Irvine*
- 2010 **M.A. Philosophy**, *Western Michigan University*
- 2004 **B.A. Philosophy**, *Biola University*

References

Available upon request.