Perrin Samuels

Concord, CA

perrin.samuels@gmail.com / 415-203-0576

Objective   Reach my full potential as a software engineer.

Skills Summary

Most Recent:

       Python, SQL, AWS: API Gateway, Lambdas, EC2, RDS, S3, SQS,

       Terraform, Docker, Gitlab CI/CD, Mockoon, OpenAPI, Git, Agile

Other Languages:

       TypeScript, Javascript, Node, ES6, React, Webpack, Babel, SASS/LESS

       Bash, Perl, PHP, Java, C/C++, VoiceXML

Experience

Quest Diagnostics, Concord, CA   May 2021 – present

As **_Senior Bioinformatics Engineer_**, I came on board with knowledge of Ancestry's health product to build something similar and to help modernize cloud-based, software development at Quest. I am part of a small, fully-remote team building a service to start and monitor genomic analyses in the cloud. Data from on-premise DNA sequencers is transferred to cloud storage and a user-selectable backend engine—proprietary or Illumina Connected Analytics—is used to analyze the data. The infrastructure is all AWS, mostly serverless, defined using Terraform. The software code is mainly Python, with some TypeScript to enhance Mockoon. We have a dozen repos in Gitlab, merges integrated with testing using Gitlab's CI/CD pipeline and mock APIs. My contributions are wide-ranging, including defining the cloud architecture, starting the Gitlab projects, writing the initial Python and Terraform code, developing the CI/CD pipelines, establishing standards for the code, for testing, and for interviewing. Most satisfying of all is my role as a mentor.

Ancestry Genomics, San Francisco, CA   Apr 2019 – May 2021

As **_Senior Backend Engineer_** on the newly formed Health Algorithms team, I helped to bring an FDA-approved health product to market, based on analysis of high resolution NGS (Next Generation Sequencing) DNA data. My team interfaces directly with the labs to receive customer health reports and the sequenced DNA. We perform quality checks, transform the data, and interface with other teams to track customer workflows, analyze the DNA for traits other than health, and present results to the customer. We use Terraform to define EC2/ECS, Fargate, or Lambda compute stacks in AWS. Most processing is asynchronous, on-demand, using SQS and auto-scaling policies to optimize costs. Most code written in Python using Flask, plus SQLAlchemy on one stack to access an Aurora MySQL database. My responsibilities include contributions to design, implementation, testing, monitoring, and maintaining all the stacks in our data pipeline, including the infrastructure and relational database schema.

Credit Karma, San Francisco, CA   May 2015 – February 2016

As **_Senior Back-end Software Engineer_** at this mature fin-tech startup, I worked on a small team developing the ad placement component of the Web and mobile apps, including ads for credit cards and various types of loan and insurance offers. All development was done in an agile environment with sprints and daily scrums, mostly PHP and Javascript. We used Vagrant, PHPStorm on a Mac, Grunt to automate routine tasks, and Git and JIRA to manage projects and code. Responsibilities included feature enhancements, diagnostics and bug fixing, unit testing, performance tuning, documentation, and assisting other groups integrating the recommendation engine into their code. I also did some front-end work on the admin interface for diagnosing problems and managing A/B tests.

Lumenir, Inc., Sunnyvale, CA   February 2012 – October 2014

As **_Software Developer_** at this technology startup, I was hired at a very early stage to head up the software division. The company develops a pay-as-you-go solar energy solution for people who are off the grid in low to middle-income countries. I designed the database and developed the entire back end, including a flexible, service-oriented

billing model with tiered rate plans. There are Web services to communicate with the solar devices, including support for remote firmware update, and to integrate with banks for secure payments. There are also monitors, automated backups, regression tests, extensive logging, support for multiple environments, API and UML documentation, and an admin GUI including graphs of captured data and maps plotting the devices in the field. Most of this was developed using Perl, MySQL, POX and SOAP in a UNIX environment. I also mentored 4 junior developers, including one coding in Python to test the firmware.

Microsoft Corporation, Mountain View, CA   November 2004 – May 2009

As *Software Development Engineer (SDE2)* at Microsoft, I worked in the Tellme subsidiary acquired in 2008 on a variety of mobile search and voice recognition applications used by millions of people every day. This includes IVR applications for big name clients like UPS, FedEx, and American Express, as well as applications accessible through a toll-free voice portal such as Fandango, Sports, News, Weather, and Stocks. I developed many front ends using VoiceXML, but attended mostly to the back-end using Perl and JavaScript. After the acquisition, I focused more on enhancements to the hosting network, including support for in-bound and out-bound SMS, and back-end processing of voice and data feeds. I also continued to develop mobile voice applications for driving such as Driving Directions, Cheap Gas, and Ford Sync.

1st Financial Bank USA, San Francisco, CA   2001 — 2004

I worked as *Software Engineer* and *Lead Infrastructure Engineer* on a small team building the public Web site, an college scholarship finder Web site, and internal tools for collectors, mostly using Java with ATG Dynamo and Oracle Server, Apache and Oracle SQL.

Fort Point Partners, San Francisco, CA   1999 — 2001

I worked as *Senior Consultant* at this e-commerce consulting firm, developing Web sites using Java with ATG Dynamo, Perl, and MySQL.

3-G International, Williamsburg, VA   1996 — 1999

I worked as *Senior Programmer/Analyst* at this smart card integration firm, focusing on applications of physical security, including PIN and biometric verification, and including both low-level C programming of the smart card interface, and native Windows apps for testing and administration using C++.

Navy Public Works Center, Norfolk, VA   1990 — 1996

I worked in a co-op program as a *Computer Specialist*, serving as DBA, network admin, and full life cycle developer of database applications.

Education

M.S., Computer Science, 1995. Old Dominion University, Norfolk, VA. 3.75 GPA
B.A., Philosophy, 1991. Virginia Tech, Blacksburg, VA