

Darren Flores

Senior Software Developer

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⌚ <https://github.com/JobStar-success/>

SENIOR SOFTWARE DEVELOPER

I'm a Senior Software Engineer with 10+ years of experience in full-stack development, cloud computing, and life sciences, specializing in genomics and AWS. At Biogen, I migrated 500TB of genomic data to AWS S3, built a React-based web app, and automated bioinformatics workflows with GitHub Actions. Previously, at UCSC Genomics Institute, I worked on large-scale projects like Dockstore and HuBMAP, handling massive omics datasets.

I'm passionate about learning new technologies, solving complex problems, and delivering scalable solutions that advance scientific discovery. Skilled in Terraform, AWS, React, Python, WDL, and CI/CD. Key skills: Problem solving, root cause analysis, communication, multitasking, and troubleshooting.

PROFESSIONAL EXPERIENCE

Biogen | full-time

11/2022 – 04/2025

Senior Software developer | Full Stack & AI Development

Houston, Texas, United

States

- Wrote software utilities to transfer half a petabyte of data from DNAAnexus to AWS S3 to achieve the company goal of switching cloud providers.
- Led refactor of React based web front end so it would work with AWS Cloud infrastructure allowing scientists to submit workflows on AWS Omics.
- Migrated WDL workflows from BitBucket to GitHub and modified them to run on AWS Omics.
- Wrote GitHub Actions for workflows using modules to register them in AWS Omics.
- Designed, wrote and tested enhancements for NodeJS React web application front end, serverless javascript and Python backend with AWS RDS Postgres DB, which integrated with DNAAnexus infrastructure, allowing scientists to more easily set up, run and monitor bioinformatics pipelines.
- Designed, wrote and tested AWS Lambdas in Python for processing data on AWS S3 and DNAAnexus.
- Designed, wrote and tested AWS Step Functions to process Next Generation Sequencing (NGS) data to AWS S3 and extract metadata to an RDS Postgres DB, enabling use of AWS services and streamlining infrastructure.

- Designed, coded, and debugged Terraform, GitHub Actions and AWS CodeBuild deployment of AWS Lambdas and ECR Docker containers for transfer and processing of bioinformatics data, simplifying software deployment.
- Debugged and enhanced WDL bioinformatics pipelines and debugged runs on DNAnexus enabling scientists to accomplish research goals.
- Designed, wrote and tested enhancements for Linux service in Python that uploaded Illumina and PacBio NGS data to AWS S3, and ran pipelines on DNAnexus to transform it to FASTQ and BAM, enabling secondary processing.
- Wrote system documentation on Wiki and workflow GitHub pages to inform scientists on proper usage of workflows.

UCSC Genomics Institute | full-time

Senior Software Engineer

03/2018 – 10/2022

Fremont, California,
United States Remote

- Designed, coded, and tested software used in Dockstore and Computational Genomics Platform.
- Wrote genomics workflows for TopMed and HuBMAP data using Docker, CWL, WDL, Python, and R.
- Designed, coded and tested scATAC-seq pipeline in CWL using ArchR package.
- Interfaced with Terra, DNAnexus, DNASTack, Ilumina, and Toil computational biology infrastructures.
- Developed web infrastructure for Dockstore using shell scripts, CircleCI, PostgreSQL, Maven, Java, AWS EC2, S3, CloudFront, CloudFormation, Alarms, Lambda, Docker-compose, Linux, Github, and dockerHub.
- Built alarm and Slack notification using AWS Alarms, SNS, Lambda, and Slack.
- Participated in project processes using Agile methods such as scrum, sprint, sprint review, and backlog refinement.
- Utilized Jira for ticket management, Wiki for documentation, and Slack for team communication.
- Experience working with large-scale omics datasets, e.g. TopMed, 1000 Genomes, TCGA.
- Experience running computationally expensive and long running genomics pipelines.
- Worked on FedRAMP compliance for Dockstore website by implementing software controls and writing documentation for the System Security Plan (SSP).

StarTechPC.com

Technical Architect

03/2015 – 11/2017

Austin, Texas, United
States

- Data Center Group - Health and Life Sciences
- Part of a multi-disciplinary team developing software and system solutions for health and life sciences. Responsible for designing, developing, and testing software frameworks used to execute Genomics workloads. Also responsible for implementing parallel processing, FPGA offload and other optimization techniques to speed up genomics pipelines.

- Responsible for building Omics pipeline software for a distributed and federated solution for bioinformatics and biomedical informatics data analysis
- Created genomics pipelines for DNA preprocessing and somatic variant calling using tools such as BWA, Picard, SAMtools, and GATK using languages such as Python, C, XML and Git
- Created Docker files and build scripts for bioinformatics tools used in pipelines
- Utilized the Galaxy IDE and also the Broad's Workflow Definition Language (WDL) for constructing bioinformatics pipelines
- Profiled bioinformatics tools for performance and optimized genomic pipelines by applying parallelization
- techniques such as scatter-gather within workflow IDE and workflow definition languages
- Collaborated with interdisciplinary teams of business, user-experience and domain experts, and external industry partners
- Implemented translated search for HMMER using Intel C/C++ compiler and offload of routines using OpenMP
- Bioinformatics courses at UCSC including Computational Biology Tools, Bioinformatics Models and Algorithms, and Computational Genomics

SKILLS

React.js	Vue.js	Tailwind CSS
Next.js	Nuxt.js	Material UI
JavaScript	Node.js	Python
TypeScript	Nest.js	Django
PHP	PostgreSQL	MongoDB
FastAPI	MySQL	OpenAI API
LangChain	PyTorch	Make
TensorFlow	n8n	Zaiper
C#	Angular	Oracle
.NET	PostgreSQL	Cloud Services
AWS	Automated Workflows	Docker
LLMs	RAG pipelines	Git
DevOps	Swift	Flutter
GoLang	React Native	Kotlin
FlutterFlow	AI Chatbot	
IOT	Machine Learning	

PORTFOLIO/GITHUB LANGUAGES

English



EDUCATION

Woodbury University

Master's degree, Computer science

08/2011 – 03/2014

Houston, Texas, US

Woodbury University

Bachelor's degree, Computer science

08/2007 – 03/2011

Houston, Texas, US