

Varderes Barsegyan

barsegyanvarderes@gmail.com | varderes.com | github.com/Vardominator | (818) 429-1802

Bioinformatics engineer with senior-level experience and a background in physics and computer science. Completed a variety of projects in bioinformatics, cloud-native computing, DevOps, data engineering, and machine learning.

SKILLS

Languages: Python, C#, Java | **Infrastructure:** Docker, Kubernetes, Travis, Jenkins

Big Data: Hadoop, HBase, Hive, Drill, Kafka | **Cloud:** GCP (Storage, BigQuery, GKE), AWS (S3, EC2, VPC, EKS, Lambda)

EXPERIENCE

Bioinformatics Research Engineer – Proteomics / Mass Spectrometry / NGS Oct. 2020 – Present
Freenome, South San Francisco, CA

- Leading the development of Freenome's internal proteomics software framework; enables researchers to easily create pipelines that process, ingest and featurize raw proteomic data.
- Building mass spectrometry data processing and analysis workflows; helping mass spec researchers mature prototype pipelines into scalable workflows that are integrated with the internal research platform.
- Developing a comprehensive feature metadata interface and data store that is compatible with multiomic data; the interface validates data, establishes a relationship between different metadata, and interfaces with public databases.

Software Engineer – Infrastructure / DevOps / Site Reliability Sept. 2019 – Oct. 2020 (1 year)
DNAnexus, Mountain View, CA

- Helped build a multi-region and multi-cloud, FedRAMP-compliant bioinformatics platform that stores and analyzes petabyte-scale private genomic data; implemented Python-based infrastructure tooling software for deployment and maintenance of the platform.
- Helped establish a DevOps culture that enables continuous changes and improvements via weekly releases.
- Maintained the reliability, scalability, and resilience of the platform by incorporating high availability of components and state-of-the-art disaster recovery.
- Worked with bioinformaticians on 20% Projects to help with the company's scientific R&D efforts.

Software Engineer – Cloud Computing June 2018 – August 2019 (1.2 years)
The Aerospace Corporation, El Segundo, CA

- Independently designed and submitted an internal R&D project proposal pertaining to novel distributed satellite intelligence technology. The proposal was among the 5 winners out of 18 submissions and received funding to be used by all departments within the Computer Technology Research Subdivision to realize the project.
- Created a Kubernetes-orchestrated data lake with Hadoop, HBase, Hive, Kafka and Drill for processing, storage, and access of satellite telemetry data.
- Developed a data processing workflow for a NOAA satellite system. This resulted in a processing time decrease from 1.5 hours per day to less than 10 minutes per day.

Software Engineer/Graduate Researcher – Bioinformatics Sept. 2016 – Jan. 2018 (1.5 years)
Sorin Biophysics Laboratory, Long Beach, CA

Completed two high-utility software projects for current and future research initiatives.

- Developed an unsupervised learning suite for post-simulation data analysis which accelerated the process of obtaining publishable results.
- Developed a dynamic web application for live simulation data visualization which provided researchers with a tool for checking the status of simulations on the Folding@Home network and provided visualizations to show status of individual parameters of simulations.