

Professional Experience:

Ginkgo Bioworks Inc. | Boston, MA

Software Engineer II

09/2023 – Present

- Expertly managed AWS Batch Queues, EC2, S3 Buckets, Load Balancers, VPC, Route53 records, and IAM roles on 15+ team sub-accounts, ensuring robust cloud infrastructure.
- Maintained a custom HashiCorp Terraform provider, streamlining infrastructure management and reducing manual intervention by 90%.
- Established and maintained CI/CD pipelines for 30+ repositories, ensuring comprehensive testing, seamless deployment, and automation across the organization.
- Led maintenance and operation of the Seqera Platform, optimizing performance on an in-house Kubernetes cluster.
- Spearheaded instructional workshops on Nextflow and the Seqera Platform, resulting in widespread adoption as the company's exclusive bioinformatics runner.

Ginkgo Bioworks Inc. | Boston, MA

Software Engineer I

10/2022 – 09/2023

- Implemented enterprise services within an in-house Kubernetes cluster, collaborating effectively with SRE teams.
- Transitioned rogue enterprise SaaS servers to SRE-compliant services using infrastructure-as-code, enhancing service reliability.
- Developed bioinformatics pipelines contributing to a \$5M+ collaboration with a major pharmaceutical company.
- Created a GPT-based tool that utilized prompt engineering to highlight genes of interest in a given genome

Zymergen | Emeryville, CA

Bioinformatics Research Associate

05/2021 – 10/2022

- Facilitated the transition to Nextflow Tower (Seqera Platform), streamlining company cloud workflow processes and reducing deployment of pipelines by 50%.
- Created and maintained advanced bioinformatics pipelines, improving data analysis capabilities.
- Ingested and processed 10+ terabytes of structured and unstructured data from in-house and public sources, enhancing data library functionality.

Lodo Therapeutics | New York, NY

Research Associate, Bioinformatics and Data Management Engineer

08/2020 – 05/2021

- Designed and executed bioinformatic analyses using custom pipelines, delivering key insights for research projects, also providing front-end visualization services.
- Managed AWS resources with Terraform, enhancing scalability and resource management.
- Curated a database of 30,000+ annotated sequences and biological data entries, supporting ongoing R&D efforts.

Conifer Point | Doylestown, PA

Data Scientist

01/2019 – 08/2020

- Determined and incorporated proteins into an in-house, web-based fragment binding map tool
- Built deep learning models to predict molecular solvation energy, surpassing previous prediction models by 20%.
- Implemented and maintained a high-performance GPU server, boosting deep learning and molecular dynamics simulation efficiency by 500%.

Education:

University of Pittsburgh, Pittsburgh, PA - BS, Bioinformatics

2018

Publications:

BMaps: A Web Application for Fragment-Based Drug Design and Compound Binding Evaluation

Daniel R. Bryan, John L. Kulp Jr., Manoj K. Mahapatra, Richard L. Bryan, Usha Viswanathan, Micah N. Carlisle, Surim Kim, William D. Schutte, Kevagh V. Clarke, Tony T. Doan, and John L. Kulp III
Journal of Chemical Information and Modeling 2023 63 (14), 4229-4236
DOI: 10.1021/acs.jcim.3c00209

Technical Skills

Programming & Scripting: Python, Golang, Groovy, Java, Bash, R

Cloud & DevOps: AWS, GCP, Kubernetes, Docker, Terraform, Packer, Conda, Jenkins, GitLab-CI, GitHub Actions

Tools & Frameworks: Nextflow, React, Git, Linux, SQL, Redis, Flask, Django