Eric Au

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EXPERIENCE

Mammoth Biosciences, Inc.

Software Engineer, Full Stack — Mar 2022 – Oct 2023

- Strategically led the optimization and management of cloud infrastructure, leveraging Terraform to deploy scalable solutions combining, batch jobs, and AWS Lambda functions.
- Orchestrated the development of full-stack solutions using Python with Django, MySQL, and ReactJS, significantly enhancing the business value of the CRISPR platform.
- Led development of a cost-optimized Kubernetes cluster on AWS (EKS), providing scalable computing solutions and end-user accessibility for streamlining research processes.
- Directed the migration of applications and databases from legacy into structured software environments, enhancing operational efficiency, reducing deployment risks, & accelerating product delivery.

Berkeley Lights, Inc.

Software Engineer, DevOps — June 2021 – Mar 2022

- Directed the innovation and implementation of architectural solutions to optimize systems and automate CI/CD processes. Played a pivotal leadership role in cross-functional teams, significantly elevating the company's infrastructure scalability and operational efficiency.
- Transformed bioinformatic solutions into commercial-grade software, generating substantial revenue and advancing the company's technological footprint.
- Vigilantly monitored system performance, ensuring optimal operation and swift resolution of issues.

Duke University

Data Scientist — Jul 2018 – Dec 2020

- Applied quantitative analysis, experimentation, the presentation of data to develop research strategies.
- Spearheaded the development of advanced RESTful API applications, provided essential tools for bioinformaticians, enabling pioneering research and enhancing the institution's data processing capabilities.
- Lead library prep and sequencing strategies for SARS-CoV-2 samples as part of public health surveillance, which pinpointed the identification of the novel strain variant CAL.20C.

Stanford University

Senior Analyst — Oct 2013 – Jul 2018

- Oversaw the development and management of computing pipelines for large-scale assays, significantly advancing laboratory automation.
- Demonstrated exceptional leadership in conceptualizing and executing pipeline development for exploratory research, driving innovations and problem-solving in laboratory processes.
- Exemplified superior communication skills, simplifying complex technical concepts for diverse teams and fostering a collaborative environment, further enhancing project outcomes and team productivity.

COMPUTATIONAL SKILLS

- **Programming Languages:** Bash/Linux, Go, Python, Node, ReactJS, HTML/CSS/JS, C/C++, PHP
- **Cloud Computing:** Amazon Web Services (AWS), Google Cloud Platform (GCP)
- **APIs & Frameworks:** Docker, Django, Flask, Kubernetes, Luigi, NextJs, Prefect, Redux, Terraform
- **Database:** MySQL, PostgreSQL

EDUCATION

San Jose State University **Bachelor of Science in Applied & Computational Mathematics**

- **Relevant Coursework:** Bioinformatics**,** Differential Equations, Dynamical Systems, Numerical Analysis, Scientific Computing, Mathematical Modeling, Statistics, Object-Oriented, Data Structures and Algorithms
- **Undergraduate Research:** A Gap-Oriented Genetic Algorithm for aligning multiple protein sequences based on computational biology concepts and principles.

PUBLICATIONS

- **Au EH**, Fauci, C, Luo Y, Mangan RJ, Snellings DA, Shoben CR, Weaver S, Simpson S, Lowe CB. Gonomics: Uniting high performance and readability for genomics with Go. https://doi.org/10.1093/bioinformatics/btad516. **Bioinformatics 2023.**
- Mangan RJ, Alsina FC, Mosti F, Sotelo-Fonseca JE, Snellings DA, **Au EH**, Carvalho J, Sathyan L, Johnson GD, Reddy TE, Silver DL, Lowe CB. Adaptive sequence divergence forged new neurodevelopmental enhancers in humans. https://doi.org/10.1016/j.cell.2022.10.016. **Cell Press 2022**.
- Wucherpfennig JI, Howes TR, Au JN, **Au EH**, Roberts Kingman GA, Brady SD, Herbert AL, Reimchen TE, Bell MA, Lowe CB, Dalziel AC, Kingsley DM. Evolution of stickleback spines through independent cis-regulatory changes at HOXDB. https://doi.org/10.1038/s41559-022-01855-3. **Nature Ecol. Evol. 2022.**