BRIAN J. ARNOLD

DATA SCIENTIST | COMPUTATIONAL BIOLOGIST | SOFTWARE ENGINEER

CONTACT

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SKILLS

Software
Machine learning
Statistics
Bioinformatics
Computing
Data Analytics
Communication
Strategic thinking

EDUCATION

Harvard University
2009-2015
PhD in Biology

University of Minnesota – Twin Cities
2004-2008
BS in Plant Biology

PROFILE

Highly adaptive computational biologist with 9+ years of professional data-science experience, specializing in software (Python), machine learning, and detailed analysis of diverse data modalities. Successfully led projects from conception to completion and significantly improved analytical capabilities of research teams by managing large datasets with scalable software. Learns fast, works hard, and navigates uncertainty well.

EXPERIENCE

Biomedical Data Scientist, Princeton University
2020-Present

- Packaged new software to run at scale and optimize neural networks that segment tissues in spatial transcriptomics data
- Led image segmentation and machine learning analyses of 3D videos to quantify neural activity from animal behavior experiments
- Managed 2 trainees on large scale sequencing projects involving 700+ samples and 10+ TB of data
- Collaborated with 9+ groups, authored papers in Science, Nature Methods, Nature Reviews Microbiology, and Genome Biology

Senior Bioinformatician, Harvard University
2018-2020

- Created and published workflow to massively parallelize mutation detection in whole-genome sequences
- Designed machine learning classifier to detect horizontal gene transfer in whole-genome alignments

Postdoctoral Researcher, Harvard School of Public Health
2015-2018

- Designed fast, memory-efficient C++ code to simulate models of bacterial evolution and used Bayesian Optimization to fit these models to data