

Andrew Sanchez

I specialize in production-quality, open source research software with expertise in Python, Linux, DevOps, high-performance computing, and data pipelines. I am also interested in functional programming, AI, machine learning, Effective Altruism, NLP, and computational musicology.

Contact

GitHub

github.com/andrewsanchez

LinkedIn

linkedin.com/andrewsanchez

Professional Experience

Pathogen and Microbiome Institute

Research Software Engineer

2020-01-01 to present

I am on the core developer team in the Caporaso Lab at the Center for Applied Microbiome Science where I work on QIIME 2, the next-generation microbiome bioinformatics platform written in Python. In addition to contributing to the design, development, documentation, and distribution of a cross-platform, multi-runtime, plugin-based framework, I have co-taught international QIIME 2 workshops and provided technical support to microbiome researchers of all levels on the official QIIME 2 forum. I also led the 2021.2 release of QIIME 2 which included contributing to a sophisticated DevOps pipeline.

Hilton

Software Engineer/DevOps Engineer

2019-06-01 to 2020-01-01

Developed containerized Python microservices for a complex data pipeline deployed on EKS. Utilized REST APIs and Kafka to implement a central architecture for the flow and access of data. Helped modernize Hilton's DevOps practices with both technology choices and cultural transformation. Helped design and implement a large CI/CD, PaC, IaC initiative used by all of Hilton's engineers.

Pathogen and Microbiome Institute

Research Software Engineer

2016-01-01 to 2019-06-01

Worked with scientists at NAU to develop bioinformatics software for genomics research. Wrote reproducible data pipelines and deployed them to an onsite high-performance cluster for parallel processing of enormous amounts of public genomic data. Automated the curation of species-based statistics and metadata.

Center for Ecosystem Science and Society

Research Software Developer

2014-01-01 to 2016-01-01

Developed image processing software in a Java style DSL for climate science research. Empowered researchers to study how native grasses respond to different climates.

Fluent Forever

Technical Operations Admin

2018-01-01 to 2019-06-2019

Automated many business operations for the most crowdfunded app in Kickstarter and Indiegogo history. Developed Python services for processing and analyzing data from REST APIs of major platforms such as Zendesk, Active Campaign, and Google products to support business operations.

Publications

[Reproducibly sampling SARS-CoV-2 genomes across time, geography, and viral diversity](#)

F1000 Research

2020-06-29

[Bacterial Genome Reduction as a Result of Short Read Sequence Assembly](#)

bioRxiv

2016-12-03

[Quality Control and Curation of Public Genomic Databases](#)

NAU's Research And Design Symposium

2017-04-28

Skills

Languages

Python, BASH, Lisp, R, Java, Rust

Tools

Git, Linux, Docker, Kafka, Django, pandas, Pytest, Flask, Kubernetes, SLURM, Anaconda,

DevOps

Ansible, AWS, Automated Testing, CI/CD, Containerization/Orchestration, Pipeline as

Science

Code, Infrastructure as Code, GitHub Actions
High Performance Computing, Reproducibility, Teaching

Education

Northern Arizona University

Music and Biology

74 Credits

Biology, bioinformatics, genetics, music theory, composition, and performance.

Languages

English

Native speaker

Dutch

Intermediate

Community Service

Grand Canyon Guitar Society

Volunteer

Organizing for non-profit that hosts concerts for world renowned classical guitarists.

The Carpentries Volunteer Data Science and Coding Instructor
Intensive workshops to teach foundational coding and data science skills to researchers.

AFS Intercultural Programs Volunteer
Technical operations and support for foreign exchange students and families.

The Flagstaff Foundry Volunteer
Front of house management for a monthly variety show and performance art non-profit.