Maitreya Venkataswamy

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Last Updated: 2025-10-02

WORK EXPERIENCE

Day Zero Diagnostics – acquired by BioMérieux June 2025

- *Senior Data Engineer* Nov 2024 – Present
  - Contributed to development of Keynome Cloud, a cloud platform for bacteria species ID and AMR (anti-microbial resistance) profiling from sequenced DNA. Worked on development of backend data processing pipelines in Python deployed on GCP w/Kubernetes and on the client frontend application in React.
  - Led development of a CLI program in Rust for uploading sequencing data to our cloud platform. Distributed the tool early-access-program clients and improved ergonomics, performance, and compatibility of the tool using feedback and requirements from clients and partners.
- *Data Engineer* Nov 2023 – Nov 2024
  - Curated MicrohmDB, dataset of sequenced DNA and AMR profiles for 90K+ bacteria isolates, the largest of its kind. Developed ETL pipelines in Python for cleaning and transforming raw sequencing data and AMR test results (from dozens of hospitals, biobanks, public data sources, etc.) into datasets for use in training ML models for predicting AMR profiles from bacteria genetics.

Titan Advanced Energy Solutions

- *Data Scientist* Jan 2022 – Oct 2023
  - Trained machine learning and deep learning models to predict battery State-of-Charge and State-of-Health using ultrasound signal data. Developed signal processing software to engineer robust features from ultrasound data.
  - Contributed to the development of data pipelines using Prefect, AWS, and Snowflake to collect ultrasound and battery cycling data from multiple long-running data collection campaigns.
  - Built and maintained validation components of the data pipelines to identify issues with ultrasound captures and send alerts to the battery lab team through Slack. Reduced resolution times for data collection issues from days to hours.

Tagup

- *Data Science Intern* May 2021 – Aug 2021
  - Trained Bayesian neural networks to model cooling tower dynamics for model-based reinforcement learning control of HVAC systems. Used TensorFlow Probability for modelling, KubeFlow for distributed training, and Ray RLlib for reinforcement learning.

Brown Center for Computation & Visualization

- *Data Science Intern* Oct 2020 – May 2021
  - Processed educational demographic datasets at the undergraduate, Phd, and faculty level to create publication quality figures to support the research of a graduate student in the Sociology Department. Iterated on the visualizations with the graduate student to aid in the investigation of racial trends in the data.

SKILLS

Technical

- Languages: Python, Javascript, Rust, SQL (Postgres)
- Frameworks Libraries: FastAPI, Prefect, React, Axum, Tokio, Sycamore, Tailwind CSS
- Cloud Tools: AWS, GCP, Docker, Kubernetes, Terraform

Soft

- Requirements gathering, Collaborative development, Test-driven development

EDUCATION

Brown University Sep 2020 – Oct 2021

- M.S. Data Science

Georgia Institute of Technology Aug 2016 – May 2020

- B.S. Aerospace Engineering, Minor in Computer Science