Karl Kaiser

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Professional Experience

05/2022 – present

Senior Software Engineer
Finch
Built API translation services allowing customers to programmatically access HRIS data from multiple payroll providers using a unified API. Specifically:

- Replaced live provider request model with asynchronous, event driven job + caching approach to reduce impact on provider rate limits & improve product reliability & scalability.
- Improved security & compliance of provider authentication pipelines, opening new opportunities for our sales team
- Wrote new integrations to retrieve data from payroll providers
- Introduced additional monitoring & alerting to reduce provider integration downtime when providers had outages or system changes
- Unwound technical debt & improved developer tooling to increase engineering velocity & reduce deployment times from ~30 minutes to ~6 minutes.

10/2020 – 05/2022

Data Engineer
Miltenyi Biotech
Built & administered custom lab information system enabling experiment & instrument tracking & automated data analysis for in-house genome sequencers using Python, NodeJS, ReactJS, Postgres, & Kubernetes.

02/2017 – 09/2019

University IT technician
University of Vermont

Education

08/2018 – 05/2020

Masters of Science: Computer Science
University of Vermont

08/2016 – 05/2019

Bachelors of Science: Neuroscience
University of Vermont

Publications

2020

Modeling Wildfires Using Evolutionary Cellular Automata
Genetic and Evolutionary Computation Conference (GECCO)
Created prediction model utilizing agent-based CAs with spread function evolved via symbolic regression.

2020

Modeling Wildfire Perimeter Evolution using Deep Neural Networks
(Preprint)
Created data pipeline using USGS & NOAA APIs to collect, clean, & partition datasets to train a CNN to predict wildfire perimeter spread.

Skills

Golang

Rust

Javascript / Typescript
Node / express / electron / react

Python
Keras & pytorch

SQL/NoSQL

Data science + ML

Cloud platforms
AWS & GCP

DevOps & development tools
Linux / ansible / kubernetes / helm