Karl Kaiser

✉ karl@kwkaiser.io   ⬡ kwkaiser   🔗 kwkaiser.io

Work Experience

05/2022 – present	**Senior Software Engineer** *Finch* ⧉ As a platform-focused engineer in service of building a payroll data API:

- Led projects to replace live data retrieval model with an asynchronous, distributed, event-driven approach to improve overall data throughput
- Led projects to create and maintain distributed workflow execution framework to enable asynchronous data retrieval for new product laterals
- Wrote new integrations to retrieve data from payroll providers
- Standardized persistence layer access patterns to reduce api response times and eliminate system limitations
- Improved CI process to reduce deployment times from ~30 minutes to ~6 minutes

10/2020 – 05/2022	**Data Engineer** *Miltenyi Biotech* ⧉ Built and administered custom lab information system enabling experiment and 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 and NOAA APIs to collect, clean, and 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*