




Karl Kaiser

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Professional Experience

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|-------------------|--|
| 05/2022 – present | Software Engineer
<i>Finch</i> 
Built API translation services allowing customers to programmatically access HRIS data from multiple payroll providers using a unified API. Specifically: <ul style="list-style-type: none">• 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
<i>Miltenyi Biotech</i> 
Built & administered custom lab information system enabling experiment & instrument tracking & automated data analysis for in-house genome sequencers using NodeJS, ReactJS, Postgres, & Kubernetes. |
| 02/2017 – 09/2019 | University IT technician
<i>University of Vermont</i>  |

Education

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|-------------------|---|
| 08/2018 – 05/2020 | Masters of Science: Computer Science
<i>University of Vermont</i> |
| 08/2016 – 05/2019 | Bachelors of Science: Neuroscience
<i>University of Vermont</i> |

Publications

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| 2020 | Modeling Wildfires Using Evolutionary Cellular Automata 
<i>Genetic and Evolutionary Computation Conference (GECCO)</i>
Created prediction model utilizing agent-based CAs with spread function evolved via symbolic regression. |
| 2020 | Modeling Wildfire Perimeter Evolution using Deep Neural Networks 
<i>(Preprint)</i>
Created data pipeline using USGS & NOAA APIs to collect, clean, & partition datasets to train a CNN to predict wildfire perimeter spread. |

Skills

SQL/NoSQL

Javascript / Typescript

Node / express / electron / react

Cloud platforms

AWS & GCP

Golang

Python

Keras & pytorch

Data science + ML

DevOps & development tools

Linux / ansible / kubernetes / helm

Rust