

Heneli Kailahi

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EXPERIENCE

Senior Software Engineer

Feb 2024 - Mar 2025

Scarf Systems

Oakland, CA

- Developed and maintained core Haskell backend services powering analytics applications, artifact proxying, event collection, and various internal endpoints with 99.99% uptime (*Haskell, AWS, k8s, Honeycomb*)
- Led analytics migration from OLTP-based pre-aggregates pipeline to real-time OLAP data warehouse handling 10x data volume (*ClickHouse, PostgreSQL, Kafka*)
- Engineered metadata correction framework to improve company matching accuracy and enable customer enrichment controls, utilizing filtered covering indexes and read-through caches to maintain sub-50ms processing times (*PostgreSQL, Redis*)
- Optimized analytical queries supporting dynamic filtering (preventing pre-aggregation) through materialized views, clustered skip indexes, approximation algorithms, and compression schemes to achieve sub-second dashboard performance across billions of events (*ClickHouse*)
- Architected next-generation telemetry classification allowing customers to track customizable metrics beyond package downloads and page views (*ClickHouse, PostgreSQL, Kafka*)
- Evaluated modern ELT tooling and created internal analytics platform for orchestrating and developing various data reports (*SQLMesh, Python, Nix*)
- Created trainings on ClickHouse architecture and database internals

Indie Software Engineer

Mar 2022 – Aug 2023

Independent

Pleasanton, CA

- Designed platform and content for Algebra – a local-first, distributed coding platform with interactive, exercise-based courses

Senior Software Engineer

Feb 2021 – Oct 2021

TVision Insights

Pleasanton, CA

- Led data pipeline project to decouple and automate ingestion of all third-party data (*Haskell, Postgres, Redshift*)
- Mentored multiple engineers in Haskell, Spark, and AWS, enabling team expansion into new technical domains

Backend Software Engineer

July 2018 – Feb 2021

TVision Insights

Boston, MA

- Engineered batch-processing algorithms using advanced graph-based approaches to synthesizing media attention metrics from audio recognition, computer vision models, and ad metadata for major TV networks (*Python, Spark*)
- Developed backend services to orchestrate evolving data pipelines, manage fleet of 3k+ IoT panelist devices, and process 30M+ daily events into viewer attention metrics (*Haskell, AWS*)
- Implemented production libraries for typesafe Redis operations, transactional caching, SFTP, and Google OAuth/OIDC authentication (*Haskell*)
- Organized bi-weekly engineering book club and meetup for local companies using functional programming
- Presented tech talks on Spark, type-level programming, recursive datatypes, mechanizing abstraction, and more

Software Engineer

May 2018 – July 2018

Confer Health (Out of Business 7/18)

Boston, MA

Java Software Intern

Summer '12, '13, '14, '16

eMeter, a Siemens Business

Foster City, CA

TECHNICAL SKILLS

Languages: Haskell, Python, SQL, Nix, Typescript / Javascript, Bash

Infrastructure: AWS (S3, RDS, EMR, EKS), Kubernetes, Docker, Kafka, Honeycomb, Datadog, Terraform, OpenTelemetry, Grafana, GitHub Actions, CircleCI

Databases: PostgreSQL, ClickHouse, Redshift, DynamoDB, Redis, RocksDB

Data & Analytics: Apache Spark, SQLMesh, Pandas, Avro, Parquet, Data Modeling

Technologies: Nix (NixOS, Home-Manager, Flakes, devenv), MyPy, React, k9s, Git, process-compose

EDUCATION

University of California, Santa Barbara

Bachelor of Arts in Computer Science, Minor in Economics

Santa Barbara, CA

2011 – 2015 (*Incomplete*)