

# NISÄN HARAMATI

DISTRIBUTED SYSTEMS  
& DATA ENGINEERING

## LEADING GREENFIELD PROJECTS FROM DISCOVERY TO PRODUCTION

I build and maintain large scale data systems in the real-time processing space, with a focus on resilience, data quality, correctness, and mathematical approaches.

A passion of mine is investing in community, mentorship, and skill-building for junior colleagues to help them grow into proficient senior developers and contributors.

Beyond programming and data systems, I am interested in physics, mathematics, baking bread, reading, outdoor activities, and being active in my local communities (tech & non-tech alike).

## EDUCATION

B.Sc Physics (2012)  
University of British Columbia

## LANGUAGES

English (Fluent)  
Hebrew (Fluent)

## FUN FACT

I once met the son of the father of GPS

## CONTACT

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## TECHNICAL SKILLS

### Programming Languages

C, C#.NET, C++, Clojure, Golang, Groovy, Java, JavaScript, Kotlin, pgsq, Ponylang, Python, R, Ruby, Scala, Shell, SQL, Visual Basic

### Databases

Cassandra, ElasticSearch, InfluxDB, MSSQL, MongoDB, MySQL, PostgreSQL, RDS, Redis, GIS

### Tools & Services

Ansible, AWS, Chef, Terraform, Docker, Druid, Gerrit, Git, Hadoop, Hive, IIS, Kayenta, Linux, Mantis, Puppet, Spark, Storm, SVN, Wallaroo

### Methodologies

CI/CD, TDD, DDD, BDD, Data systems design, testing & validation, Statistical analysis, Testing & validating analytical methodologies, Dynamical Systems modeling

### Specializations

Autonomous Vehicles	Geospatial Data Systems
Big Data	Greenfield projects
Complex Event Processing	Infrastructure
Containerization	Processing
Data Engineering	Predictions
Data Systems Architecture	R&D
Database Design	Risk Modelling
Distributed Algorithms	Site Reliability Engineering
Distributed Data Systems	Stream Processing

## TRANSFERABLE SKILLS

### Communication Skills

Code & design reviews	Product & feature advocacy
Creating, giving presentations	Project proposals
Documentation (internal & external)	Public speaking
Education & training	Sales engineering
High production-value presentations	Technical assessments
Interviewing candidates	Technical leadership
Meeting facilitation	Technical writing
Mentorship & Coaching	Troubleshooting

### Project Management Skills

Adaptive planning	Requirements gathering
Agile methodologies	Execute short & long term projects throughout their full lifecycle
Anticipating future needs	<ul style="list-style-type: none"><li>discovery, conception &amp; planning</li></ul>
Delivery	<ul style="list-style-type: none"><li>scoping, roadmap</li></ul>
Estimates	<ul style="list-style-type: none"><li>implementation, productionization</li></ul>
Information gathering	<ul style="list-style-type: none"><li>maintenance, upgrades</li></ul>
Priority setting	<ul style="list-style-type: none"><li>sunsetting</li></ul>
Reviews (code, document)	

### Assets

Clear & organized leadership style  
Collaborative team contributions  
Efficient and well-paced task management  
Enthusiastic teacher and learner  
Independent self-starter  
Thorough diagnostic skills  
User-driven perspective



## CAREER HIGHLIGHTS & EXPERIENCE

### PRINCIPAL SOFTWARE ENGINEER | TEAM LEAD | TECH LEAD NVIDIA | NOVEMBER 2020 TO PRESENT

#### Tech Lead: Unified Fleet Management

- Lead a cross functional initiative to streamline and automate all fleet related operations, including software deployment and testing, route planning, vehicle and personnel scheduling, and real-time operations management
- Design and deploy asset tracking and data lifecycle management systems
- Ensure all components of the Unified Fleet Management system fully integrate to form a cohesive single pane of glass solution for managing all fleet related operations and concerns

#### Team Lead: Drive Campaigns

- Automate the classification, planning, analysis, and labeling parts of the data collection and curation operations using geospatial data processing and analysis to increase the efficiency and scale of our operations
- Interview and onboard new hires, create and give organization-wide presentations, and liaise with members of other teams to facilitate system integrations
- Continuously engage with new and existing stakeholders to ensure ongoing product alignment
- Design and build the data-driven layer of automation for data systems & data pipelines supporting large-scale ML/AI products
- Administer and maintain the geospatial data systems used for map-based classification, planning, and analysis
- Implement graph algorithms, GPU based parallel optimization, map matching, and geospatial processing
- Mentor and coach data engineers on multiple teams

### SENIOR SOFTWARE ENGINEER NETFLIX | AUGUST 2019 TO AUGUST 2020

- Kayenta (Statistical analysis engine)
  - Took ownership of the project, assessed its support needs and implemented a roadmap to bring it up to current support standards
  - Identified and implemented new features to address new client requirements
  - Designed and executed a testing methodology for evaluating changes to the statistical analytics engine, enabling use of a Continuous Integration process
  - Co-managed the project with Open Source partners
- ChAP (Chaos & Change automation platform)
  - Worked on a large systems migration to move users from an aging system to a new platform with improved stability and capabilities
  - Supported remaining users while the old system was undergoing obsolescence and migrating to ChAP
- Liaise with Data Science Engineering
  - Worked with Data Science to identify, implement, and evaluate new statistical methodologies

### DISTRIBUTED SYSTEMS ENGINEER | CHAOS ENGINEER WALLAROO LABS | DECEMBER 2015 TO JUNE 2019

- Core contributor to Wallaroo, an open source, high-throughput, low-latency distributed real-time event processing framework written from the ground up in the Pony language.
- Worked on core functionality, testing & verification, metrics, telemetry, and instrumentation
- Built an end-to-end model-driven testing harness enabling chaos engineering, fuzzing, and generative testing
- Designed and implemented a distributed testing and property verification system for Wallaroo, allowing for rapid generation and execution of tests over thousands of topologies
- Performed R&D in testing and verification of distributed systems, using both empirical and formal methods which helped improve the resilience and reliability of Wallaroo
- Utilized risk modeling in complex systems using dynamical systems theory, identifying when the system transitions between predictable and unpredictable or chaotic behavior



## CAREER HIGHLIGHTS & EXPERIENCE CONTINUED

### PLATFORM ENGINEER

COUNSYL | SEPTEMBER 2014 TO NOVEMBER 2015

- Redesigned the data systems architecture throughout the organization, reducing hardware footprint and enabling auditability and fine grained access control as required by HIPAA
- Created database systems automation for deployment and administration, reducing maintenance and recovery related downtime
- Updated the data systems architecture and configuration to meet HIPAA compliance

### DATAOPS TEAM LEAD

PLENTYOFFISH.COM | JUNE 2014 TO AUGUST 2014

- Established and lead the data ops team in developing and supporting the data systems at POF, which enable the IT, product, customer support, marketing, and executive teams to excel at each level
- Oversaw projects and ensured alignment with other teams in the organization
- Mentored junior team members to help advance their skills in software and data system design principles
- Coordinated cross functional projects and skills sharing with other teams, and helped develop data-driven product development methodologies

### SENIOR SOFTWARE ENGINEER, R&D, DATA SCIENCE

PLENTYOFFISH.COM | MAY 2010 TO AUGUST 2014

- Designed, built and administered the monitoring, analytics, dashboards, and operational alerts stack, enabling the IT team to prevent service failures and outages
- Researched and implemented full end-to-end systems (CDN origin service, data backend for analytics, data backend for data science, distributed real time data collection and processing system), reducing service layer costs and enabling new data driven business opportunities
- Set up and administered multiple database clusters in a low-latency, heavy load environment (PostgreSQL, MSSQL, Cassandra)
- Developed a distributed and fault tolerant execution cluster for R code that ran the bot detection and social network-based predictions algorithms
- Built a high performance JavaScript rendering engine for real-time animated feeds
- Developed test automation tools for Android phones



### MENTOR

NPOWER.ORG | NOVEMBER 2021 TO PRESENT

- Technology career mentor guiding underprivileged and underrepresented members into the community to help them boost their career prospects and negotiating power in order to thrive.
- Guide and prepare mentees in skill boosting, goal setting, roadmapping, resume building and interviewing skills
- Coach mentees on programming and data science projects