



Carl Ek

SENIOR SOFTWARE ENGINEER

Details

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NATIONALITY
Dual Canada/USA

Links

carlek.github.io
www.linkedin.com/in/carlek
www.github.com/carlek
[blog: carl's casual chronicles](#)

Skills

Communication
Leadership
Teamwork
Airflow
AWS
C/C++
Cassandra
FastAPI, GraphQL
Flask, Django, Chalice
Docker, Kubernetes
Github
Java
Kafka
MySQL
NumPy
Pandas
PostgreSQL
Python3
SQLAlchemy
Tableau
Terraform
Typescript

Profile

I am a Senior Software Engineer with experience as individual contributor and team lead across many industries. Recent projects: LLM Chatbots, Web3.0 dApps, cloud-based micro-service apps, AdTech & FinTech with ML. Prior experience as consultant on software quality and lead developer of early C/C++ compiler extensions for High Performance Computing.

Employment History

Principal, Self-Employed, Various

JANUARY 2008 – PRESENT

Current: LLM Optimization, specializing in programming languages and improving performance and accuracy of LLM-generated code. Ongoing: ICP dApps and ChatBots (*Python, Motoko, Typescript, OpenAI, WandB, LangChain, AWS Bedrock*)

Lead Python Engineer, Softvision (Freelance)

NOVEMBER 2022 – MARCH 2023

Project: Bootcamp training for client demands and requirements. (*Java, Springboot, MicroServices, various AWS courses.*)

Senior Software Engineer, NextEra Analytics (Green Energy)

JANUARY 2022 – AUGUST 2022

Project: Green Energy and carbon zero goal tracking. Developed endpoints for carbon-zero calculators ingesting IoT smart meter data: cloud-based micro-services. Developed a design pattern for an abstract database model which other teams adopted, increasing development velocity.

Senior Tools Engineer, Tatari (AdTech)

MAY 2021 – DECEMBER 2021

Project: Data ingestion and visualizations for on-boarding new clients. Returned to the Ad-Tech world developing client service tools and visualizations to detect integration anomalies. With discrepancies resolved customer retention increased by 30%.

Cloud Engineer, Change Healthcare (Microservices)

NOVEMBER 2020 – APRIL 2021

Project: Healthcare record ingestion system. Implemented complex translations and data pipelines within a micro-service Health Care transaction system. Wrote code to aggregate and consolidate to a standard ISO data format, increasing revenue stream for 20% of the clinic portfolio.

DB Admin and Developer, World Library Foundation

AUGUST 2020 – OCTOBER 2020

Project: Full-Stack sole-developer. Recovered the dead Gutenberg self-publish website and database back to life. 60% of legacy customers returned, and this non-profit was saved.

Senior Cloud Engineer, Agari (SaaS, Microservices)

JULY 2019 – APRIL 2020

Project: Secure email in the cloud. Backend development for micro-framework serverless application endpoints and processes, system dashboards, and Slack notifications. Successful experiment with 1000 customers with a new at-scale sensor design.

Senior Software Engineer, Oculus (Manufacturing)

OCTOBER 2018 – DECEMBER 2018

Project: investigate and develop initial designs and prototype REST API code for a new assembly line concept.

Senior Engineer, TrueAccord (FinTech)

JANUARY 2018 – AUGUST 2018

Project: Automated Debt Collection. Responsible for the entire backend system: Key projects: baseline metrics, and software experiments.

Lead Software Engineer, Moasis (AdTech)

JANUARY 2014 – DECEMBER 2016

Project: Hyperlocal Mobile Ad delivery. Built a team, developed and enhanced processes, backend infrastructures,, Created dashboards for Product and System Analytics. Investigated and saved \$25K/month in billing discrepancies due to packet loss or fraud.

Lead Staff Programmer, CoreLogic (FinTech)

JANUARY 2011 – DECEMBER 2013

Project: Full Stack Mortgage Backed Security Bond Analytics. Implemented continuous build/test tools, implemented ETL processes, interactive bond rating charts, and efficient APIs for data extraction and analysis.

Architect, Code Integrity Solutions (Consulting)

JANUARY 2009 – DECEMBER 2010

The #1 technical employee, I helped grow client base from 0 to more than 20 customers in a successful startup consulting business. Hired and mentored staff, and developed best practices for internal use and partner companies. Developed a production suite of tools to enforce effective C/C++ coding. Notable projects: NASA Mars Lander (Curiosity) validation

Senior Engineer, Coverity/Synopsys (Professional Services)

JANUARY 2007 – DECEMBER 2008

Consultant to senior technical customers on issues of multithreading, quality, and security. Delivered engaging seminars at embedded systems conferences.

Software Engineer, Electronic Arts

JANUARY 2005 – DECEMBER 2007

Project: develop high performance cross-platform C++ language extensions for vectorized algorithms on PlayStation and Xbox. Wrote sample code, developers guide, and a detailed report on features, benefits, challenges, and future possibilities for senior technical staff

Lead Software Engineer, IBM Canada Software Lab

JANUARY 1998 – DECEMBER 2005

Project: design and implement new methods to support high performance vector algorithms in C. As lead, our team developed Unified Parallel C (UPC) which eventually became an IBM product.

Education

Bachelor of Science, University of Manitoba

Master of Mathematics, University Of Waterloo

Predictive Analytics (Coursework), Northwestern University