

Thomas Gebert

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Computer skills

Java 21	Apache Spark	C++	FFMpeg
Python	GCP	F#	TLA+
SQL	Erlang/OTP	Go	Vert.x
Clojure	Linux	JavaScript	Docker
.NET Framework	Shell Scripting	Node.JS	
Kafka	ZeroMQ	Scala	

About

Professional Software Engineer with more than a decade of experience across backend systems, distributed infrastructure, and high-performance computing. Known for delivering cost-saving platform redesigns and mentoring engineers in concurrent and functional programming. Former staff engineer at Walmart and senior engineer at Apple and Reddit.

Education

Western Governor's University

Salt Lake City, UT

B.S. Computer Science

University of York

York, United Kingdom

Ph.D. Studies in Computer Science (Incomplete)

- Conducted research in Formal Methods and Robotics, including model checking and algorithmic proof systems like Isabelle, Haskell, and FDR4.
- Built and evaluated verification tooling for robotic systems, emphasizing correctness under concurrent execution.
- Completed 3 years of advanced coursework and independent research.
- Departed program in good standing to pursue high-performance computing roles in industry.

Experience

Schrodinger

New York, New York

Senior Software Engineer

February 2024 – April 2025

- Maintained topology of Kafka Streams applications.
- Augmented RocksDB and optimized write throughput on streaming applications.
- Replaced the use of RocksDB with a custom backend using PostgreSQL.
 - Achieved roughly 50% the performance while cutting cloud storage costs down by 80%, and reduced duplication across nodes.
 - Utilized Vert.x, Caffeine Caches, Bloom Filters, LMAX Disrupter, and various heuristics to minimize latency without overwhelming the system.
- Utilized Google Cloud Platform to deploy and maintain distributed applications.

CUNY City Tech*Adjunct Lecturer (Contract)***New York, New York***August 2022 – June 2023*

- Taught introductory programming to computer engineering students.
 - Introductory and advanced Python 3 and Java 17.
- Created and graded homework assignments and tests.
- Coded interactive learning modules in JavaScript and Python for students to practice.
- Worked with professors designing cyber-physical systems to help formalize robotics applications.
- Given a perfect score for teacher reviews for two semesters in a row.

Interim & Short-Term Engineering Roles*Backend and infrastructure roles amid volatility***New York, New York***August 2022 – November 2023***Reddit – Senior Software Engineer****August 2022 - November 2022**

- Redesigned Reddit's image resizing pipeline in Python and Go, reducing infrastructure cost by 40%. Shipped production code to GCP and improved reliability metrics. Laid off during company-wide restructuring.

OnFrontiers – Principal Software Engineer**February 2023 - May 2023**

- Architected and implemented an async backend in Python/Go to support real-time video job placement platform. Designed system end-to-end and led rollout in coordination with CTO.

Lead Bank – Senior Software Engineer**September 2023 - November 2023**

- Contributed to ACH processing system using AWS Lambda, Step Functions, Java, and Go. Designed infrastructure scripts and onboarded clients across banking environments.

Walmart Global Tech*Staff Software Engineer***New York, New York***August 2021 – August 2022*

- Mentored junior and mid-level engineers in distributed computing and functional programming.
- Made use of message queues to schedule and partition work across multiple nodes.
- Delegated and managed work across several engineers when designing distributed systems.
- Built NLU pipelines for the Chatbot on walmart.com utilizing the Microsoft Bot Framework.
 - Utilized the Microsoft Bot Framework, F# and C#.
- Architected the multi-cluster design of the Chatbot.
 - Decreased chatbot latency by over thirty percent across multiple clusters.
 - Coordinated the release of multi-cluster deployment of chatbot.
- Utilized Microsoft Azure, Linux, and Python to build infrastructure.
- Designed and built APIs with GraphQL.

Thrive Global*Contract Engineer***New York, New York***March 2021 – August 2021*

- Utilized Node.js to build the localization features.
- Used Docker to build microservices.
- Wrote build scripts in Python.

Apple Inc.*Senior Software Engineer***New York, New York***September 2018 – February 2021*

- Designed and built a telemetry and analytics system for finding potential bottlenecks in the cache indexes utilizing Java 11, Clojure, Kafka, Apache Spark, and Tableau.
- Fixed issues and bugs in the iTunes server backend.
- Built a Kafka-based buffering service to reduce load on indexing and caching for iTunes.
- Maintained and expanded rule engine for iTunes, utilizing Objective-C and C++.
- Deployed Java code onto Amazon Web Services and Linux.

Walmart Global Tech (Jet.com)*Senior Software Engineer***Hoboken, New Jersey***July 2016 – August 2018*

- Wrote Microservices in F#.
- Utilized the Microsoft Azure stack.
- Used Apache Kafka to send data between services.
- Utilized Python in conjunction with Apache Spark ML to figure out optimal time to send email.
- Rebuilt the transactional email system to scale to Jet.com size.
- Taught the F# language during code bootcamps.

Tone Mobile*Software Engineer***New York, New York***September 2015 – June 2016*

- Wrote and maintained Erlang backends.
- Created modules for Ejabberd.
- Integrated chat server with Node.js backend.

New York University*Research Scientist***New York, New York***March 2015 – September 2015*

- Debug Angular.JS frontends.
- Debug Scala backends.
- Help write Haskell backends.
- Programmatically use FFMpeg for video transcoding.

Sq1*Application Developer***Dallas, Texas***May 2014 – February 2015*

- Used the Joomla and Wordpress CMS systems to build websites for advertising clients.
- Wrote backends in Node.js.

Senico, LLC*Software Engineer***Dallas, Texas***June 2013 – April 2014***Propulsion Labs***Software Engineer***Dallas, Texas***January 2013 – June 2013***Amerinational Management Services***Web Developer***Orlando, Florida***January 2012 – December 2012***Lockheed Martin***Software Engineering Intern***Orlando, Florida***May 2011 – August 2011***Public Speaking**

Lambda Days 2023 – Why Design Your Own Levels When Your Computer Can Do it?:

Presented an introduction to doing WebGL with ClojureScript, in addition to showing a few simple procedural level generation algorithms for games

Lambda Days 2022 – Predicting and Preventing Chaos with Formal Methods in TLA+:

Presented in Krakow, Poland, an introduction to formal methods via a brief description and demonstration of the TLA+ specification language.

Lambda Days 2020 – Distributed Hash Tables, Video, and Fun!: Presented in Krakow, Poland, the same talk as stated above.

Clojure Conj 2019 – Distributed Hash Tables, Video, and Fun!: Presented in Durham, North Carolina, a demonstration of a project involving a video sharing system using distributed hash tables and to farm out video transcoding.