

GEORGE LEONTIEV

Engineering @ Twitter
Core Services

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WHO AM I?

10+ years of experience in designing, building, and scaling highly-performant distributed systems that power critical parts of the infrastructure at the largest tech companies.



EXPERIENCE

2017 – 2023
London
Edinburgh
Remote

Twitter

Software Engineer → Senior Software Engineer → Staff Software Engineer

I'm a part of the Core API team at Twitter, working on a platform for rapid delivery of production features, using GraphQL as the enabling technology. We operate services with 12B daily requests, with peaks of 658K RPS, with 1.5B fields returned per second. Our compiler and schema generator process over 2.5K fields, with thousands of schema modifications by hundreds of engineers that get deployed to production hourly.

Highlighted contributions:

- Led a cross-organizational initiative to develop an Operational Ownership management system based on the GraphQL schema.
- Implemented Data-Returning Mutations, which expanded the capabilities of our platform and enabled new initiatives such as Communities, Audiospaces, Tweet Edit, and Birdwatch community notes.
- Built an implementation of Internal GraphQL, and supported customers in onboarding onto it.
- Designed and built an Automated Root Cause Analysis system to improve the oncall load for teams on the critical path.
- Enabled work on customizable GraphQL Scalar annotations in Thrift by adding support for arbitrary level application of thrift annotations in thrift-scrooge compiler. As part of that, rebuilt the input/output type generation engine, to speed up the old implementation.
- Designed and built Field Lifecycles management system for GraphQL schema, allowing customers to evolve their APIs without breaking older clients.
- Migrated team's CLI tooling to the cloud, dropping P99 execution times from tens of minutes to under 15 seconds.
- Extended support for end-to-end tracing requests throughout the system, to allow self-serve debugging capabilities for customers.
- Built a slack bot to automate customer ticket tracking, extended it to be team-agnostic. Bot was eventually used across various organizations at the company, across hundreds of channels, 70+ JIRA projects, tens of thousands of tickets.

Technical Leadership / Distributed Systems / Scala / GraphQL / Compilers

2014 – 2017
Berlin

SoundCloud

Engineer

I have worked in several teams at SoundCloud. In my last job there, I was a part of the activities team where my work consisted of scaling and implementing the highest throughput systems at SoundCloud, i.e. systems that power the front page, notifications and social graph features.

Before that I was a part of the creators team where I focused on features that help creators reach a wider audience, such as, services for creator stats, in-app messages, coordinating track creation, rss-feeds and the transcoding flow. Additionally, I bootstrapped services for serving content to stations and services for the bulk content ingestion pipeline for partners.

Finally, when I joined SoundCloud I was a part of the core services team. There I took care of services used by all teams such as geo, authorizations and rollout services. Additionally, I took care of libraries built on top of Finagle to provide developers with tools to bootstrap and evolve their services quickly and intuitively.

As part of my 20% time, I've built and maintained an ops tool for managing service deploys across the company. Even though the tool was not part of the official tooling, it was eventually adopted by most of the teams at the company.

Scala / Microservices / Distributed Systems / Kubernetes / Haskell

2013 – 2014
Berlin

deltamethod

Quantitative Developer

I worked on the development of a recommendation system for improving online ads and ad campaigns that predicts their success and suggests possible improvements. I implemented various machine learning algorithms in Scala/Python and produced functional code that scales to big amounts of data.

Python / Machine Learning / Scala

2011 – 2013
Kyiv
Amsterdam

The New Motion

Scala Developer

I was the second person joining the client's remote dev team (9 people at the time of me leaving). Had a chance to work on / initiate / lead all the projects the company worked on.

Scala / Java / Distributed Systems / Internal tools

2010 – present

Open-source

Engineer

I've worked with several opensource communities. Some examples are – the Lightbend and Typelevel Scala compilers, where I worked on bringing SIP-23 to life: <https://docs.scala-lang.org/sips/42.type.html>. Other notable projects include the twitter libraries stack – utils, finagle, finatra.

Functional Programming / Distributed Systems / Compilers

EDUCATION

2008 – 2010

Master's Degree

Computer Science

National University "Kyiv-Mohyla Academy"

2004 – 2008

Bachelor's Degree

Applied Mathematics

National Taras Shevchenko University

2019 – 2023

Self-directed study

Philosophy of Mind, Ethics, Machine Learning, Artificial Intelligence

University of Oxford, University of Edinburgh, Coursera

PATENTS

US20210042364A1 **Managing query subscription renewals in a messaging platform**

Issued August 30, 2022

WO2021026553A1 **Messaging platform for delivering real-time messages**

Issued February 11, 2021

US20210044549A1 **Event producer system of a messaging platform for delivering real-time messages**

Issued February 11, 2021

US20220393999A1 **Messaging system with capability to edit sent messages**

Filed November 10, 2022

WO2023278887A2 **Selective engagement of users and user content for a social messaging platform**

Filed January 5, 2023