



Konstantin Gredeskoul

Startup CTO, Software Architect, Principal Engineer

Ruby • RubyOnRails • ANSI C • C++ • JavaScript • TypeScript • SQL
Distributed Systems • High Availability • Fault Tolerance • DevOps & Observability
Arduino/Embedded Hardware • Networking • Cyber Security

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PROFICIENCY

Ruby (& Rails)
●●●●●●●●●●

DATABASES & SQL
●●●●●●●●●●

OO DESIGN
●●●●●●●●●●

UNIX PROGRAMMING
●●●●●●●●○

DEVOPS
●●●●●●●●○

C/C++
●●●●●●●○○

BAZEL
●●●●●●●○○

TypeScript (NodeJS)
●●●●●●●○○

SUMMARY

I am a passionate technology leader and a recognized expert in numerous app and web development technologies. What separates my approach to leadership and business problem-solving is the commitment to continuous learning, trade-off-based analysis, and collaborative, out-of-the-box thinking.

CAREER HIGHLIGHTS

As the four-time CTO, I ran software teams of varying sizes, ranging from just two individuals to teams of twenty-five senior engineers. **My responsibilities included recruiting, training, and mentoring hundreds of software engineers.** I actively sought out and engaged with boot camp graduates, discovering promising young talent while focusing on helping underserved groups. At Wanelo, in 2010, these efforts resulted in 35 female vs. 65% male engineering team composition and a dictionary definition of "efficient" engineering process. One of such early boot camp hires subsequently gained worldwide recognition on [Forbes' prestigious "30 Under 30" list](#). While at Wanelo, [not only did we rewrite the early prototype entirely](#) in just two months with six engineers, **we went on to scale the site 100x in under six months, achieving 99.99% uptime** and a 100ms average iOS app interaction response.

After a decade of leading teams in CTO or VPE roles, I built a consulting business from scratch — [ReinventONE](#) — to contribute back to open source. **This effort generated an impressive open-source portfolio of over three dozen Ruby Gems** and other projects. My Ruby Gems have since been downloaded over [132 million times](#), and my online presentations on scaling web applications reached an audience of more than [1/4 M viewers worldwide](#).

I was later invited to speak at [several international conferences](#), such as [RubyConf Australia](#), [Silicon Valley PostgreSQL Conference](#), and [Ruby Mexico](#). I was one of the judges on the startup panel and the technology adviser for the "Geek Camp" startup competition in Santiago, Chile, where I spent a week advising local technical teams on best practices.

PROFESSIONAL EXPERIENCE

HEALTHSHERPA, Principal Software Engineer

02/2022 — 03/2024

HealthSherpa enrolls more than 2/3rd of all ACA (Obamacare)-eligible US population into affordable health insurance and is used by both Agents and end-users alike. My accomplishments included:

- Proposing a set of principles to improve the scalability and reliability of the backend systems, while removing single points of failure. **This allowed the company to achieve its best uptime (100%) during the open enrollment (OEP) period when the traffic jumps over 10x overnight, reaching 80K RPMs in 2023.**
- Automating the incredibly tedious and error-prone developer onboarding experience, **reducing onboarding time from nearly a week to one hour.**
- Replacing a cumbersome custom observability framework with a comprehensive **Datadog APM, Log, and Infrastructure integrations, creating detailed performance dashboards and alerts that provided invaluable insights into various bottlenecks and site errors.**
- Refactoring the deployment CLI tool, while adding a comprehensive RSpec test suite.
- Presenting internally nearly ten technical talks & presentations** on topics ranging from Ruby Concurrency, to scalability, to PostgreSQL tuning and performances gotchas.

EDUCATION

1993 — 1995



Monash University, Melbourne,
Australia

Bachelor of Science (Honors)
Mathematics & Statistics

My academic journey took me to win several national mathematics Olympiads in Eastern Europe. **Graduating summa cum laude (top 1%) from Monash University in Australia**, where I majored in abstract mathematics, statistics, probability theory and operations research.

1992 — 1993



Kharkov State University, Ukraine
Mathematics
and Advanced Calculus

HOBBIES & INTERESTS

Distributed Systems

Open Source Software

Electronics / PCB

[Laser Cutting](#)

Arduino / ESP8266

Drums, Guitar, Piano

DJ (House / Tech-House)
as [DJ LeftCtrl](#)

Electronic Music
Produced two albums as
[PolyGroovers](#)

Whitewater Kayaking

Yoga & Running

Motorcycles

FOSSA, Staff Software Engineer

• 09/2020 — 09/2021

As a member of the systems team, I joined the project aimed at preventing the impending forced transaction XID wraparound emergency vacuum on the primary PostgreSQL database, which resulted from disabling auto-vacuum back in the early days. With less than two months left on this ticking time bomb, I adequately sized and migrated the instance to a multi-AZ RDS configuration and was able to complete the vacuum in time, saving the company from a potential multi-day downtime. Subsequently, I participated in projects aimed at reducing the AWS cost, reorganizing SQL schema to compact a 27TB database table, and implementing a unique job feature in the open-source NodeJS client library of Faktory, which required me to reach advanced expertise in TypeScript & NodeJS in less than three months. Used **Kubernetes** to run application locally and test the migrations.

COINBASE, Senior Software Engineer (Level 6)

• 06/2019 — 02/2020

I joined Coinbase Infrastructure Team and was tasked with introducing the concept of a “mono-repo” by combining dual-lingual code base (Ruby and Go) into a single repository. Learning the Bazel Build System open-sourced by Google I used the Starlark programming language (a subset of Python) to add Ruby support to Bazel (which was non-existent at the time). The outcome of this effort was an open-source project I manage called [rules_ruby](#) which allowed most ruby project to be built, run, and tested (eg, on CI) using standard Bazel commands in a hermetic way. This project later became the basis for the canonical ruby rules in Bazel [currently under active development](#).

HOMEBASE, Infrastructure Architect

• 08/2017 — 01/2019

I joined Homebase at a pivotal time in company's journey, when their popularity as a scheduling and clock in/out software for small businesses resulted in enormous traffic peaks at 12noon Pacific each day, sending the only PostgreSQL database to 100% CPU utilization, and resulting in short but **consistent downtimes, daily**. My immediate focus was on solving these downtime and returning the company's software to stability and resilience to such spikes.

- Within the first few weeks working there, in collaboration with other engineers I introduced a set of scalability and resilience improvements (such as read/write DB splitting), **returning the company to 99.99% uptime** in just a couple of months. Ruby Gem “Makara” was used to implement the splitting.
- Next, built a completely new AWS VPC infrastructure using Chef as the automation tool, and Docker on Ubuntu, integrating with AWS services such as RDS, S3, SNS and EC2. Reduced AWS costs by 2X by switching to self-managed Redis & Memcached, consolidating app servers onto reserved instances.
- Heavily tuned Ruby garbage collection parameters and provided a custom build of the Ruby interpreter linked with **jemalloc**, **reducing memory usage by 3X**. Optimized concurrency settings for Puma and Sidekiq to minimize involuntary context switching. Rebuilt deploy process using Capistrano, introducing a non-downtime deploy process under 1 min. After rebuilding the Production, Staging and multiple Dev environments, focused on reducing CI build times by 2-3X using aggressive caching and smart retries.

WANELO, Chief Technical Officer / VPE

• 12/2011 — 01/2016

I joined the company as an employee #3. I immediately threw myself into fixing site's chronic outages caused by its own popularity, and lack of performance-oriented design of the prototype codebase. After applying some amount of clever CDN caching using the early Fastly CDN bought the team some time, I led a discussion resulting in a difficult decision to perform a complete rewrite, switching from MySQL to PostgreSQL. We estimated the effort at two months with six engineers, completing the effort exactly as planned with not a day behind. [Full story here](#).

- I introduced a [modified Pivotal Process](#) based on full-time pair-programming, continuous integration, daily deployments, and TDD. In just under two months that followed, with the team of six (myself included), we replaced the old Java codebase - 90K lines with no tests - with a compact Rails app - only 10K LOC, with near 99% test coverage. During the switch we also swapped the Cloud vendors, database engine, and the entire stack all at once.
- Automated cloud deployment with Chef, strategically providing automated tests with all Chef recipes. Used HAProxy as a routing layer as well as the resilience mechanism for fail-over. This architecture was the subject of my RubyConf OZ talk [“DevOps without the Ops”](#).
- Hired, mentored, lead a team of twenty five engineers, losing just one hire to Twitter in three and a half years of my tenure as a CTO.

NOTABLE OPEN SOURCE WORK

All projects listed below are open source and distributed under the MIT license.

CMake Project Template (817 ★)

A popular template for C/C++ projects that comes with automated tests using gtest library

Rules Ruby for Bazel (100 ★)

Primary maintainer of the Rules for Ruby Bazel project.

Simple Feed (Ruby Gem) (328 ★)

Redis-backed activity feed implementation that scales to millions of users, optimized for constant rendering-time of the feed

Sym (Ruby Gem, CLI) (136 ★)

Symmetric encryption library based on OpenSSL, supports password-protected symmetric keys

MakeABox.io &

laser-cutter (Ruby Gem) (93 ★)

Rails-based one-page site for generating PDF templates aimed at a laser-cutter, that generate enclosure boxes with sides that snap onto one another

puma-daemon (Ruby Gem) (33★)

A plugin for Puma web server that restores the deprecated **daemonize!** feature

LANGUAGES

English (Fluent)

Russian (Fluent)

Spanish (Beginner)

CONTRACTS via REINVENT.ONE

FLARE.BUILD, Bazel Course Content Author

• 07/2020 — 08/2020

Part of a small team tasked with creating a two-day training course on the Bazel Build system with eight hours of lectures and eight lab hours with less than one week's advance notice. I contributed several lectures, concept diagrams, Github actions CI integration, setup scripts, and proof-read/edited the entire set of 260+ slides.

MEDCREDS, Consulting CTO [Contract]

• 04/2020 — 07/2020

Helping the pre-funding startup with architecture, VC pitch, and product positioning using the latest W3C standards in the areas of Verifiable Credentials, Digital Wallets, Self-Sovereign Identity and distributed public key infrastructure built atop of a Sovrin Blockchain.

FLOWINC.APP, DevOps Automation [Contract]

• 01/2019 — 06/2019

Six-months contract with a fin-tech startup in VC fund management space. Built a complete cloud automation from scratch using **Chef Enterprise on AWS**, and following all AWS security guidelines, multi-layered VPC with redundant VPN servers. Provisioned multiple environments (dev, staging, production).

Professional experience between 1995 and 2011 is available upon request or my [LinkedIn Profile](#).

REFERENCES

"I have worked with Konstantin and can say he is bar-none the most technically minded CTO and leader I have ever worked with. He has an amazing depth in system turning, scaling distributed architectures, ruby programming, and database tuning.

Matthew Camuto
Hands-On Startup CTO, SW Architect
Reported to Konstantin @ Wanelo

His biggest contribution, though, was building a super well-oiled engineering team that is the dictionary definition of efficient, lean and driving a fully automated deployment infrastructure, and enforcing best practices such as TDD in a pairing environment.

Overall Konstantin is a super passionate and creative technologist, and a leader, and he would be a great asset to any team that wants to build an amazing tech org. I would fully work with him again in a heart beat."

"As a CTO Konstantin puts great focus in developing a healthy engineering culture that extends outside his organization. He is able to build and lead extremely efficient teams by focusing on team success and empowerment.

Richard Millan
Engineering Leader
Reported to Konstantin @ Wanelo

Konstantin not only has formidable CTO skills, but is also a superb engineer. He is constantly refining his preferred stack to increase productivity and scalability. He is one of the brightest people I have ever met. He is a swift thinker and is able to come up to speed and give invaluable feedback. He uses all those skills to lead his team into success."

"I had the privilege of working with Konstantin during his time as CTO at Simbi. As a largely non-technical Product Manager myself, it was ideal for me. Konstantin is not only an hugely talented software architect, but a kind, patient, teacher and a mentor. He's fiercely passionate about designing the right schemas, models, and state machines to scale any product to any level. Affable, energetic, and witty, his presence fills a room with uniquely contagious optimism.

Carlos Argüello
VP Product
Simbi.com

Armed with the ability to turn a overburdened product into a superbly resilient one with minimal dependencies, he gave me the peace of mind to make major product decisions knowing our application would function as imagined — all with no downtime or security risks. It doesn't stop at there. Konstantin is professional and smart as hell. He doesn't just make sure features will work properly, but virtually guarantees they won't break by cautiously and meticulously implementing automatic tests every level. For Konstantin, nothing is impossible, if no one has done it yet — he'll be glad to be the pioneer. Strategic, down-to-earth, and utterly competent, Konstantin is without a doubt the one of the most brilliant people in Silicon Valley. In the cut-throat tech industry, any company (big or small) would be more than fortunate to count on his astutely strategic mind, especially as head of their engineering team.

I cherish having had the opportunity to work alongside Konstantin. With his immense experience and fearlessness, every "problem" becomes a fun challenge to overcome. For this, and his never-ending desire to teach, explore, and innovate, I recommend Konstantin to lead your dev team. Let him work his magic as you scale. You'll be pleasantly surprised."