

Alexander Kolesen

About

Senior Infrastructure & Backend Engineer with 15+ years building large-scale distributed systems in gaming, fintech, and SaaS. Expert in AWS, Terraform, CI/CD, and backend engineering (C, Clojure, Python, Golang). Proven success designing resilient cloud infrastructure, reducing costs, and leading engineering teams to deliver scalable, high-availability platforms serving millions of users.

Contact

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Work experience

Principal Site Reliability Engineer

Online Services, People Can Fly
600 people, Warsaw, PL, remote

2023 - now

People Can Fly, established in 2002, is a global video game development company operating in Poland, the UK, Ireland, and North America.

- Built and launched the foundation for a self-hosted online game platform serving 600+ developers and supporting multiple new titles.
- built the content pipeline for staging environment for content developers
- Designed and deployed game server infrastructure using Multiplay and Gamelift
- CI/CD pipeline for the game platform

Technologies and tools used: AWS, terraform, Java, Kotlin, Github Actions, Gamelift, Multiplay

Software Developer

wscp, Actmobile
10 people, San-Francisco, US (part-time, remote)

2022 - 2023

Actmobile is a company that builds VPN services. Their side project is wscp - a maximum throughput network copying tool.

- challenged several TCP congestion control mechanisms, found out that TCP is not the best way to utilize bandwidth
- implemented a two-channels model: the UDP channel is used to transfer the actual data, and the TCP channel is used to re-request lost fragments. This approach has shown the best results in terms of bandwidth utilization overperformed TCP in some conditions 2-10 times.

Technologies and tools used: Linux, C, openssh, rsync, TCP, UDP

Senior Backend Developer and Principal Infrastructure Engineer

Palta Data Platform, Palta Payments
10 people, Limassol, CY (part-time, remote)

2021 - 2022

Palta is a startup incubator dedicated to well-being/health-related startups. The data platform is intended to replace the various data collection services used by incubator-owned applications in favor of an internal one.

- designed and implemented a cost-effective and flexible multi-tenant data pipeline using AWS API Gateway -> Kinesis Firehose -> S3 -> SQS -> Lambda (Python 3.10, PostgreSQL 13) -> Snowflake, that did cost 10 times less than Amplitude on the same data volume
- designed and implemented a consistent HTTP callbacks system
- infrastructure design for a payments system for rapid load scaling

Technologies and tools used: Docker, PostgreSQL, Apache Kafka, Snowflake, Memcached, Redis, Looker, terraform, Atlantis, Grafana, Github Actions, AWS: API Gateway, Lambda, S3, SQS, Kinesis Firehose, Kinesis Streams, DynamoDB, Batch, CloudWatch Metrics and Logs, RDS, Elasticsearch, Elasticache, Route53

Software Developer

2019 - 2021

ICE, Denmark's Ministry of Taxation, Flexiana
500-1000 people, Copenhagen, DK (remote)

The project is a public system that is designed to fully cover the process of taxation of all types of property in Denmark. It was written in Clojure and ClojureScript and was running on AWS.

- took responsibility for maintaining and extending few components so they weren't bottleneck
- recognized a gap between developers and infrastructure engineers and closed it. As a result the velocity of delivering any infrastructure-related tasks was increased significantly
- speed up CD pipeline 4-10x through introduction a more granular deployment

Technologies and tools used: Clojure, Docker, PostgreSQL, Jenkins, terraform, Atlantis, Github Actions, AWS: Batch, API Gateway, EC2, ECS, Lambda, S3, SQS, CloudWatch Metrics and Logs, RDS

Solo Backend Engineer

2019

Wanna Kicks
20 people, Minsk, BY (part-time, remote)

Virtual try on application that let you check how sneakers would look on your leg before buying them.

- implemented CRUD backend to manage the model catalog
- implemented a solution for distributing the model catalog in the form of encrypted bundles via CDN, in multi-revisioned and multi-tenant fashion
- implemented statistics collection and SQL-based analysis using AWS Kinesis Firehose and AWS Athena

Technologies and tools used: Python, chalice, Docker, terraform, AWS: API Gateway, Lambda, S3, SQS, DynamoDB, CloudFront

Principal Infrastructure Engineer and Senior Software Developer

2015 - 2018

Juno
100-200 people, Minsk, BY - Tel Aviv, IL - New York, US, onsite in Minsk

Juno was a ride sharing service operated in New York, Backend development center was located in Minsk. Juno was acquired by Gett in 2017.

- up and running quickly (from collecting a team to the release in 1y) and operate in the highly competitive NYC market, making up to 40K trips a day serving millions of users
- established continuous delivery of backend microservices (100+) few times a day (sometimes up to >600 deploys daily), so deployment was never a bottleneck
- worked on capacity planning and fault tolerance, isolated parts of a computing cluster into separate shards
- led a team of 5 infrastructure engineers
- provided developers a clear way to check production logs, metrics and maintain their own set of alerts

Technologies and tools used: Linux, Clojure, Golang, Python, MySQL/InnoDB, PostgreSQL, MongoDB Memory Engine, Docker, GoCD, nginx, Memcached, Redis, Django, Elasticsearch, Kibana, Prometheus, Grafana, NATS, AWS: S3, EC2, ECS, RDS, ElastiCache, Kinesis Firehose, Route53

Infrastructure Engineer and Software Developer on various projects

2024 - 2007

Kontur, inc. (GIS service provider) – Built backend infra for Kontur Platform Services (Kubernetes, Java, Data Pipelines, nginx)

Wanna Kicks (AR App) – Built backend infra for multi-tenant catalog delivery (Python, AWS)

Actmobile / wscp (VPN) – Optimized bandwidth with custom TCP/UDP hybrid protocol (C, Linux)

Dyn Inc. (DNS, via EPAM, acquired by Oracle) – Designed API bridging legacy/new DNS systems, built Docker+Chef+Jenkins pipelines. Led a middle developer.

Iron.io (Cloud Platform) – Migrated MongoDB clusters, automated monitoring, extended deployment infra

Wargaming.net (Gaming) – Built deployment tools, infra team, scaled web systems to 1M+ concurrent players. Led a team of 2 infrastructure engineers

Shop.by (E-commerce) – Modernized infra (SVN, Sphinx search, MyISAM to InnoDB migration)

Education - Belarusian State University of Informatics and Radioelectronics

2004 - 2009

Faculty of Information Systems and Management

Artificial Intelligence / Information System Security

Master's thesis: „Intellectual collection and analysis of an Internet service statistics in real time under high load “.