Alexander Kolesen

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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.

Work Experience

Principal Site Reliability Engineer **2023 – 2025**
Online Services, People Can Fly
∼600 people, Warsaw, PL, remote

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 the staging environment for content developers.
- Designed and deployed game server infrastructure using Multiplay and GameLift.
- Built the CI/CD pipeline for the game platform.

Technologies and tools used: `AWS, Terraform, Java, Kotlin, GitHub Actions, GameLift, Multiplay`

Software Developer **2022 – 2023**
wscp, Actmobile
∼10 people, San Francisco, US (part-time, remote)

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

- Evaluated several TCP congestion control mechanisms; found that standard TCP was insufficient for maximum bandwidth utilization.
- Implemented a dual-channel model: UDP for data transfer and TCP for retransmitting lost fragments. This approach outperformed standard TCP by 2–10× in bandwidth utilization under certain network conditions.

Technologies and tools used: `Linux, C, OpenSSH, rsync, TCP, UDP`

Senior Backend Developer and Principal Infrastructure Engineer **2021 – 2022**
Palta Data Platform, Palta Payments
∼10 people, Limassol, CY (part-time, remote)

Palta is a startup incubator dedicated to well-being and health-related startups. The data platform replaced various third-party data collection services used by incubator-owned applications with an internal one.

- Designed and implemented a cost-effective, flexible multi-tenant data pipeline using AWS API Gateway → Kinesis Firehose → S3 → SQS → Lambda (Python 3.10, PostgreSQL 13) → Snowflake, at one-tenth the cost of Amplitude on the same data volume.
- Designed and implemented a reliable HTTP callbacks system.
- Designed infrastructure for a payments system to support 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, RDS, Elasticsearch, ElastiCache, Route 53`

Software Developer **2019 – 2021**
ICE, Denmark's Ministry of Taxation, Flexiana
500–1000 people, Copenhagen, DK (remote)

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

- Took responsibility for maintaining and extending several components to eliminate performance bottlenecks.
- Recognized a gap between developers and infrastructure engineers and bridged it, significantly increasing the velocity of infrastructure-related delivery.
- Sped up the CD pipeline 4–10× by introducing more granular deployments.

Technologies and tools used: `Clojure, Docker, PostgreSQL, Jenkins, Terraform, Atlantis, GitHub Actions, AWS: Batch, API Gateway, EC2, ECS, Lambda, S3, SQS, CloudWatch, RDS`

Solo Backend Engineer **2019**
Wanna Kicks
∼20 people, Minsk, BY (part-time, remote)

Virtual try-on application that lets users see how sneakers would look on their feet before buying.

- Implemented a CRUD backend to manage the model catalog.
- Implemented a solution for distributing the model catalog as encrypted bundles via CDN, in a multi-versioned 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 – New York, US, onsite in Minsk

Juno was a ride-sharing service operating in New York, with its backend development center in Minsk. Juno was acquired by Gett in 2017.

- Scaled from a fresh team to 40K daily trips in under one year, operating in the highly competitive NYC market and serving millions of users.
- Established continuous delivery of 100+ backend microservices, running several times a day and sometimes exceeding 600 deploys daily, ensuring deployment was never a bottleneck.
- Worked on capacity planning and fault tolerance, isolating parts of the computing cluster into separate shards.
- Led a team of 5 infrastructure engineers.
- Provided developers with clear tooling to inspect production logs and metrics, and to maintain their own alert sets.

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, Route 53`

Infrastructure Engineer and Software Developer — Various Projects **2007 – 2015**

Kontur, Inc. (GIS service provider) — Built backend infrastructure for Kontur Platform Services (Kubernetes, Java, data pipelines, nginx).
Dyn Inc. (DNS, via EPAM, acquired by Oracle) — Designed an API bridging legacy and new DNS systems; built Docker + Chef + Jenkins pipelines; mentored a mid-level developer.
Iron.io (Cloud Platform) — Migrated MongoDB clusters, automated monitoring, and extended deployment infrastructure.
Wargaming.net (Gaming) — Built deployment tooling and the infrastructure team; scaled web systems to 1M+ concurrent players; led a team of 2 infrastructure engineers.
Shop.by (E-commerce) — Modernized infrastructure (SVN, Sphinx Search, MyISAM to InnoDB migration).

Education

M.Sc. in Artificial Intelligence / Information System Security **2004 – 2009**
Belarusian State University of Informatics and Radioelectronics, Faculty of Information Systems and Management

Master's thesis: *"Intellectual collection and analysis of Internet service statistics in real time under high load"*