

# Ahmad Alhour

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## Summary

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A generalist software engineer and tech leader with 15+ years of work experience building cloud-based SaaS products with full-stack involvement: from frontends (web, mobile) to cloud infra (AWS, GCP) all the way through APIs, databases and services, with a speciality in building data-intensive distributed systems.

Lately, I have been working on Apache HBase, an open-source database alternative to Google Bigtable.

## Work Experience

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### HubSpot

Senior Data Infra Engineer II

Dec 2023 - Present

Munich, Germany

- Working on the HBase database team, providing product teams at HubSpot with a scalable, highly-available and distributed NoSQL database for processing terabytes of data that ensures low-latency random reads and writes with replication across multiple datacenters and availability zones on top of AWS & Kubernetes
- Contributed to the Apache HBase open-source database (see: [GitHub commits](#))
- Built a chaos-monkey testing pipeline that continuously integrated, built and deployed new releases of HBase to multiple-datacenters in kube and AWS, this CI/CD/ChaosTest pipeline automated our internal release cycle and decreased it from over a week to less than a day
- *Tech Stack: Java, HBase, Kubernetes & AWS*

### Shopify

Staff Software Engineer

Jan 2022 - Sep 2023

Munich, Germany

- Re-designed the merchant eligibility distributed system and moved it's signals from batch to real-time which improved the end-to-end latency of product re-indexing by 99.98% (from 48h down to 32s) which enabled the onboarding and offboarding of 2M+ merchants & 2B+ products in near-real-time
- Scaled the Product Understanding infrastructure to process machine-learning classification updates for products in real-time, going from 100K to 140M in 24h (140%) by scaling Redis, MySQL & Sidekiq workers
- Led the Shop Promise project across 3 teams, by designing the GraphQL API, backend services and UI integrations on the mobile app, and released it to 100M+ buyers on the Shop app marketplace worldwide
- Led Shop's Merchants Experience Group (7 teams; 40 engineers) to prepare for BFCM 2022 by designing load tests, scalability and fail-over plans which led to handling an anticipated 10x load: 8M+ merchants, 100M+ buyers and \$7M+ in GMV (see: [news.shopify.com/bfcm-record-stats...](#))
- Mentored my direct team on writing system design proposals, monitoring, observability & incident response
- *Full-stack development using RubyOnRails, Sidekiq, Python, Spark & Flink, Kafka, Vitess & GCP*

### AutoScout24 (AS24)

Engineering Manager

Aug 2020 - Jan 2022

Munich, Germany

- Managed a team of 8 senior engineers on making Europe's biggest car marketplace more safe and fraud-free
- Spearheaded the design, project management & stakeholder alignment for migrating AS24's Identity system to Scala, AWS & Okta which increased user growth by 37%, powering 20M+ users on iOS, Android & Web
- Re-designed the car-listings creation flow by incorporating machine learning classifications which decreased fraud listings by 40% and lost leads by 95% which led to increasing sales by 33%
- Mentored my direct team on software architecture, managing risks in software projects & soft skills

### KI labs

Data Engineering Lead

Sep 2019 - Aug 2020

Munich, Germany

- Led a team of 6 data engineers across project planning, architecture, implementation & delivery
- Designed cloud-based big data platforms for Daimler, Lufthansa & JTI on AWS & GCP using modern data stacks such as: Snowflake, Databricks, Delta Lake, Google BigQuery & Apache Spark
- Open-sourced *kaos*, a platform for simplifying Machine Learning deployments on the cloud (AWS & GCP) based on Python, Pachyderm, Terraform, Docker & Kubernetes: [github.com/KI-labs/kaos](#)
- *Full-stack development using Python, Java, Apache Spark, Apache Storm, Docker, Kubernetes, AWS & GCP*

## TrustYou

Tech Lead

Jan 2016 - Sep 2019

Munich, Germany

- Led the Data team working on the Analytics Pipelines, processing 7M new hotel reviews weekly
- Led partnerships work with Glassdoor & Indeed, scaling TY's data platform to company reviews
- Led the Connect team, an API SaaS platform for integrating hotel partners with TrustYou
- Designed public API platforms for integrating big OTAs with TY, e.g.: Booking.com, TripAdvisor & Google Places, which increased TY's hotel portfolio from 40K to 400K (10x)
- *Full-stack involvement using Python, Java, PostgreSQL, Docker, Kubernetes, Hadoop, Apache Spark & Kafka*

## CCC, D1G, CommunitiesTech, Freelancing

Software Engineer

Feb 2007 - Dec 2015

Multiple locations

- Several software engineering roles at different companies and locations. For more information, please refer to my LinkedIn profile: [linkedin.com/in/aalhour](https://www.linkedin.com/in/aalhour)

## Education

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### B.Sc. Degree

Computer Science

Princess Sumaya University for Technology

Sep 2007 - Jun 2011

- *Capstone project: Natural Language Processing & Sentiment Analysis applications for Arabic Twitter.*
- *Participated in the global IEEEExtreme programming competition (9th place worldwide).*
- *Participated in the regional ACM ICPC programming competition.*

## Side Projects & Open Source

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### Open-Source

- **Apache HBase:** An open-source Apache alternative to Google Bigtable, I shipped a few features and bugfixes: [github.com/apache/hbase/commits?author=aalhour](https://github.com/apache/hbase/commits?author=aalhour)
- **kaos:** A platform for simplifying Machine Learning deployments on the cloud (AWS & GCP) based on Python, Pachyderm, Terraform, Docker & Kubernetes: [github.com/KI-labs/kaos](https://github.com/KI-labs/kaos)

### Web Dev

- Cookiecutter template for developing async Web APIs in Python 3 with SQLAlchemy's ORM: [github.com/aalhour/cookiecutter-aiohttp-sqlalchemy](https://github.com/aalhour/cookiecutter-aiohttp-sqlalchemy)

### Educational

- Portable C# library of 35+ Data Structures and 30+ Algorithms: [github.com/aalhour/c-sharp-algorithms](https://github.com/aalhour/c-sharp-algorithms)
- COOL Language compiler, targeting the MIPS 32-bit architecture: [github.com/aalhour/PyCOOLC](https://github.com/aalhour/PyCOOLC)
- 16-bit machine code assembler for the Hack Assembly language: [github.com/aalhour/Assembler.hack](https://github.com/aalhour/Assembler.hack)
- Various other open source projects and utilities: <https://github.com/aalhour>

## Technical Skills

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### Programming Languages

Python, Ruby, JavaScript, Golang, Java, Kotlin, C#, C/C++

### Web Frameworks

Rails, Flask, FastAPI, Django, React.js

### Data Frameworks

Apache Spark, Apache Flink

### Storage

MySQL, PostgreSQL, Vitess, Kafka, HBase, Bigtable, MongoDB, DynamoDB

### Areas of Expertise

Distributed Systems, Software Architecture, Data Engineering, Web Apps