

ALPHAN AKSOYOĞLU, Ph.D.

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Summary

Data Engineer / Data Scientist with a PhD in Physics, combining extensive experience in Data Engineering, BI management and academia. Passionate about programming, software, automation, artificial intelligence and staying abreast of evolving computational technologies. I have strong analytical skills, and quick to identify problems, and find solutions.

As a Data Engineer I have been involved with warehousing, ETL, building and maintaining pipelines for petabyte (PB) scale business and product analytics data. As well as cost management of cloud systems, process optimization, and overall improvement of data models and quality.

During my academic career I dealt with complex mathematical problems, and devised mathematical and computational models to solve problems, lead scientific projects, and mentored students. As a BI manager I worked on business development and management, product placement, marketing, software integration, and data-based information storage and reporting.

Technical Skills

Programming Languages

- Python (Pandas, Numpy, Matplotlib, Seaborn, Tensorflow, Keras, Scikitlearn), MATLAB, Mathematica, Excel VBA, C, C++
- Bash, AutoHotkey

Orchestration

- Apache Airflow

Machine Learning and Artificial Intelligence

- Linear and Logistic Regression, Decision Trees, Natural Language Processing, Neural Networks (DNN, RNN, Convolutional)

Databases & Data Warehouses

- SQL (postgres), NoSQL (MongoDB), BigQuery, Redshift

Operating Systems

- Unix (Linux, Mac), Windows

Web & Dashboards

- Flask, Metabase, Plotly, Plotly-Dash

Cloud Architectures

- Google Cloud Platform (GCP), Amazon Web Services (AWS)

Version Control & Deployment

- Git, GitHub, GitLab, CI/CD, Docker, Kubernetes

Work experience (Industry):

Senior Data Engineer

08.2023 – Present

DeliveryHero GmbH – Berlin, Germany

- Played a key role in managing Data Warehousing tasks, ETL processes, and pipelines for the internally developed Product Analytics platform, with a focus on optimizing costs, streamlining processes, and made significant contributions to the modeling efforts.
- Ensured the delivery of reliable and high-quality curated Product Analytics data to stakeholders, supporting reporting and monitoring activities. Instrumental in the maintenance of petabyte-scale data infrastructure.

Data Engineer II

01.2022 – 08.2023

DeliveryHero GmbH – Berlin, Germany

- Migration from AWS/Snowflake style of Data Warehousing to GCP/Data Mesh style Data Warehouseing
- Working on data and data-pipelines providing curated data for key KPI calculations requested by C-level management

Data Engineer – Freelance

06.2021 – 09.2021

Quandoo GmbH – Berlin, Germany

- Refactoring and maintaining the Tripadvisor crawler.
- Refactoring and maintaining the Facebook Pages Enricher which collects data through the Facebook API
- Deployment and automation of these systems on a Kubernetes Engine on the Google Cloud Platform

Business Data Analyst – Freelance

05.2021 – 12.2023

MegaWest Enterprise Inc. – Los Angeles, CA, USA

- Deploying a web application for automating settlement reports using Amazon's SP-API
- Responsible for settlement reports during finalization of the sale of the company. P&L assessment of retail operations of the company on Amazon Worldwide, Shopify, Etsy, and eBay

Business Intelligence Manager – Full Time

2016 – 2019

Nexify Inc. – Los Angeles, CA, USA

- Developed business strategies and management solutions for online retail operations on Amazon Worldwide, Shopify, Etsy, and eBay. Worked closely with software developers to develop database integration of products, and business metrics.
- Optimized and automated advertising strategies (**up to 40% reduction in costs**). Developed API-based solutions on AWS, MWS, and Shopify; and tools in SQL, Python, and Excel VBA that reduced the preparation time of advertising campaigns and business reporting from Amazon (i.e. **days/multiple employees to hours/single employee**).

Other Projects:

Vaultwarden – Raspberry Pi

(<https://github.com/AlphanAksoyoglu/vaultwarden-rpi>)

A fully dockerized self-hosted, secure and private, seamlessly reachable from anywhere through VPN, deployment of the Vaultwarden Password Manager.

Music Generation with Recurrent Neural Networks

(<https://github.com/AlphanAksoyoglu/AI-jsbach-music-generator>)

Trained a neural network with LSTM cells connected to a deep neural network on the keyboard compositions of J.S. Bach. The neural network was implemented using Python, Tensorflow, Keras.

Supermarket Simulation – a Markov Chain Analysis and Simulation

(https://github.com/AlphanAksoyoglu/supermarket_markov_simulation)

Modeled customer behavior for a fictional supermarket, using a markov chain model. The pandas and numpy libraries were used for calculations and simulations, the open-cv2 library, for visualization.

Tweeter Bot – a Fully Dockerized ETL Pipeline

(<https://github.com/AlphanAksoyoglu/tweeter-etl-pipeline>)

Using Python, this tweeter bot was designed to follow unique tweets in real-time, using the Tweeter streaming API, for six world leaders. Each tweet was assigned a sentiment score and highest and lowest ranking sentiments are posted on Slack via a slackbot. The workflow was Tweeter API -> MongoDB -> vaderSentiment/clean -> SQL -> sort/select -> post. Each element runs in its own Docker container.

Work experience (Academic):

Postdoctoral Research Assistant

2019 – 2020

Jacobs University Bremen – Bremen, Germany

- In charge of the research team that focused on antibiotic translocation through bacterial ion channels.
- Performed mathematical modeling, experimentation, data analysis and interpretation.
- Completed four projects, one of which as a project lead.

Visiting Scientist

2016

National Institutes of Health – Bethesda, MD, USA

- Initiated and completed a collaborative follow up project based on my doctoral studies.
- Performed experimentation, interpretation of results, model fitting.

Research Assistant

2011 – 2016

University of Massachusetts – Amherst, MA, USA

- X-ray scattering and electrophysiology experiments, analysis and modeling.
- Event and peak detection, equilibrium thermodynamics, high frequency signal analysis.
- Teaching, physics labs, MATLAB for scientists and engineers, and general physics courses for scientists and engineers.

Education

Data Science SPICED Academy – Berlin, Germany	2021
PhD in Physics University of Massachusetts – Amherst, MA, USA Thesis: “Equilibrium Partitioning of Binary Polymer Mixtures into Biological Nanopores”	2009-2016
BSc in Physics Boğaziçi University – Istanbul, Turkey	2003-2008

Languages

English: Native Proficiency, **German:** Intermediate (B1 Certificate), **Turkish:** Native Language, **Romanian:** Beginner