

Patrick Ruoff

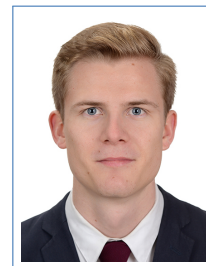
Curriculum Vitae

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Relevant Experience

- 8/2024 - **Cloud Data Architect: diconium data**, FREELANCE, Munich.
12/2024 Part of agile team (8 members) providing cloud data analytics platform for business departments of world-leading automotive OEM. Migrating cloud infrastructure within AWS with Terraform. Challenging architecture of existing data pipelines and models.
Skills: AWS: Redshift, lambda, Glue, Athena, Terraform, Python, CI/CD, PySpark, Collibra
- 11/2022 - **Lead Data Engineer: Swiss Foreign Trade Statistics**, FREELANCE, Bern.
8/2024 Part of two agile teams (18 members) providing data analytics platform for customs and border security business departments. Redesigned ETL architecture for ~60 data products processing customs and personal data. Improved performance by factor of ~100. Technical lead in decision making with architects and code review for 12 developers.
Skills: Python, Airflow, PySpark, dbt, Iceberg, SQL, NiFi, Kubernetes, AWS S3, Kafka
- 1/2022 - **Senior Data Engineer: industrial machine manufacturing**, INOVEX, Munich.
9/2022 Part of agile team (~30 members) providing cloud data platform for industry-leading business departments. Designed and implemented architecture for ~30 ETL applications and APIs processing global IoT data on a terabyte scale. Deployment of various managed services in hybrid cloud setup. Enablement of client developers. Optimized architecture to save ~4000€ per month. Knowledge-Sharing for up to 60 colleagues.
Skills: Python, Azure, Databricks, PySpark, SQL, NiFi, Kubernetes, Shell, CI/CD, Terraform
- 2/2021 - **Data Engineer: commercial kitchen appliance manufacturer**, INOVEX, Munich.
9/2021 Part of agile team (6 members) with goal to provide data-driven insights to end-users on globally distributed IoT data of industry-leading client. Designed and implemented architecture for ETL and machine learning applications that process data daily on a giga- and terabyte scale. Full responsibility from raw data collection over processing with machine learning to visualization. Deployment of various managed services in private network on Azure. Enablement of client developers.
Skills: Python, Azure, Databricks, PySpark, SQL, Data Lake, Shell, CI/CD, Terraform
- 9/2020 - **Data Engineer: commercial kitchen appliance manufacturer**, INOVEX, Munich.
12/2021 Designed and implemented architecture for ETL and dashboarding application for IoT data. High focus on security for sensitive laboratory data on Azure. Realized clean software architecture principles for maintainability of 11 Python projects. Reduced processing time by a factor of ~50. Conducted requirements engineering as main contact for stakeholders.
Skills: Python, Azure, Elasticsearch, Kibana, Shell, CI/CD, Clean Code
- 10/2020 - **Cloud Engineer: commercial kitchen appliance manufacturer**, INOVEX, Munich.
1/2021 Migrated ETL pipelines and web APIs from on-premises to Docker-based services on Azure.
Skills: Azure, Terraform, Azure DevOps, CI/CD, ARM templates, Docker
- 6/2020 - **ML Engineer: commercial kitchen appliance manufacturer**, INOVEX, Munich.
9/2020 Designed and implemented on-premises ETL pipelines and web APIs for ML applications.
Skills: Python, Shell, Gitlab CI/CD, Elasticsearch, Kibana, flask, Clean Code, JavaScript

- 9/2019 - **Guest Researcher**, CARNEGIE MELLON UNIVERSITY, Pittsburgh.
- 4/2020 Designed and realized data collection pipeline for thermal comfort related data including biosignals and occupant controls. Optimized, deployed and evaluated machine learning models for infrared heating panel control with focus on interpretability. Reduced command frequency by 79% and increased thermal comfort to 89%. Published findings ([paper](#), [code](#), [data](#)).
Skills: IoT, Python, scikit-learn, fastai, Swift, Cloud Computing, Explainable AI
- 10/2018 - **Data Scientist: Student Job**, INOVEX GMBH, Munich.
- 5/2020 Evaluated machine learning frameworks with focus on tabular data sets.
Skills: extensive Python programming, scikit-learn, TensorFlow, PyTorch, Parquet

Studies

- 10/2018 - **Data Engineering & Analytics, M.Sc.**, TECHNICAL UNIVERSITY MUNICH.
- 9/2019 *Grade when cancelled: 1.9*
Focus: data engineering, machine learning, distributed systems, deep learning
- 10/2016 - **Informatics, M.Sc.**, TECHNICAL UNIVERSITY MUNICH.
- 4/2020 *Final grade: 1.3*
Focus: software engineering & architecture, agile project management, machine learning
- 10/2017 - **Study Abroad**, MULTIMEDIA UNIVERSITY MALAYSIA.
- 3/2018 Focus: software engineering, software quality
- 10/2013 - **Informatics, B.Sc.**, TECHNICAL UNIVERSITY MUNICH.
- 10/2016 *Final grade: 2.3*
Focus: software engineering, machine learning, business analytics, database systems

Skills

- Coding: *Expert:* Python, SQL, Shell
Extended: JavaScript, Java, C#
Basic: R, Scala, C++, Swift
- Azure Databricks, Data Factory, Functions, ARM, Blob, ADLS, Queues, Fileshare, DevOps, SQL DB, Cosmos DB, App Services, Container Instances, Key Vault, Event Grid, VNet, Logic Apps, Active Directory, Event Hub, Stream Analytics
- AWS Databricks, Redshift, Athena, Glue, Lambda, Step Functions, S3, EC2, ECS, EMR
- Others: *Expert:* Terraform, Databricks, PySpark, Spark Streaming, Airflow, dbt, Iceberg, Delta, NiFi, Kafka, Docker, CI/CD, Scrum, SAFe, Git, Clean Code, NumPy, pandas, Bash, NoSQL, Jupyter, PostgreSQL, Elasticsearch, Kibana, PyTest, fast learning
Extended: Kubernetes, Flask, Grafana, scikit-learn, matplotlib, MongoDB, Cassandra, Atlassian Stack, UML, Data Mesh

Awards & Certificates

- 11/2023 **Databricks Certified Data Engineer Professional**, DATABRICKS.
- 11/2022 **Azure Data Engineer Associate**, MICROSOFT.
- 11/2022 **Associate Developer for Apache Spark 3.0 (Python)**, DATABRICKS.
- 1/2021 **Data Engineering Nanodegree**, UDACITY.
- 10/2019 - **DAAD IFI scholarship**, GERMAN ACADEMIC EXCHANGE SERVICE.
- 4/2020 For research stay of highly qualified young German researchers in the field of artificial intelligence at excellent partner institutes abroad.