

BERKE TAYFUN AKSEKI

SOFTWARE ENGINEERING | BACKEND & PLATFORM | DATA ENGINEERING | AI / MACHINE LEARNING

Rome, Italy | Izmir, Turkey | +39 331 289 3197 | +90 507 239 28 29 | berketayfunakseki@gmail.com
berketayfunakseki.com | linkedin.com/in/berke-tayfun-akseki | github.com/berketayfunakseki | Open to relocation worldwide

PROFESSIONAL SUMMARY

Management and Computer Science graduate from LUISS Guido Carli (Jul 2026) with 8 end-to-end technical projects spanning Software Engineering, Backend/Platform Engineering, Data Engineering, Artificial Intelligence (AI), Machine Learning (ML), Data Science and Product Analytics. Built TypeScript/Node.js and Python/FastAPI backend services, RESTful APIs and third-party API integrations, PostgreSQL-backed distributed/asynchronous workflows, Airflow/PySpark/dbt ETL/ELT pipelines, Retrieval-Augmented Generation (RAG) and Natural Language Processing (NLP) systems, and experimentation/Business Intelligence (BI) analytics tools. Strong in Object-Oriented Programming (OOP), data structures and algorithms, testing/pytest, Docker, Amazon Web Services (AWS), Infrastructure as Code (IaC), Continuous Integration/Continuous Delivery (CI/CD), monitoring/observability, statistical analysis, problem solving and stakeholder communication.

TECHNICAL SKILLS

Programming Languages: Python, TypeScript, JavaScript, Structured Query Language (SQL), R, C#, HTML/CSS

Software Engineering & Backend: Node.js, FastAPI, Django, React, Vite, REST APIs / RESTful APIs, API design/development/integration, third-party APIs, full-stack and web development, SQLAlchemy, Pydantic, JWT, OAuth2, Object-Oriented Programming (OOP), data structures & algorithms, software architecture/system design, distributed systems, asynchronous processing/workers/queues, concurrency control, idempotency, retries/circuit breakers, debugging, unit testing, integration testing, pytest

Data Engineering & Databases: PostgreSQL, SQLite, relational databases, database design, Apache Airflow, Apache Spark/PySpark, dbt, Parquet, ETL/ELT, data pipelines, workflow orchestration, data modeling, dimensional modeling, data warehousing, data quality

AI/ML & Data Science: Pandas, NumPy, SciPy, scikit-learn, statsmodels, PyTorch, TensorFlow/Keras, Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), embeddings, Hugging Face, sentence-transformers, FAISS, semantic/vector search, OpenCV, computer vision, feature engineering, model evaluation, statistical modeling, hypothesis testing, regression analysis, causal inference

Analytics & Business Intelligence: Business Intelligence (BI), Product Analytics, A/B testing, experimentation, cohort analysis, funnel analysis, KPI dashboards/reporting, data visualization, Power BI, Microsoft Excel, KNIME, Streamlit

Cloud, DevOps & Reliability: Amazon Web Services (AWS), AWS CDK, CloudFormation, ECS/Fargate, RDS, CloudWatch, Infrastructure as Code (IaC), cloud computing, Docker, Docker Compose, Git/GitHub version control, GitHub Actions, Continuous Integration/Continuous Delivery (CI/CD), Prometheus, Grafana, monitoring, observability, Service-Level Objectives (SLOs), automation

Professional: Problem solving, technical communication, stakeholder collaboration, project ownership, cross-functional collaboration

PROJECT EXPERIENCE

Energy Connect Platform - Backend / Platform Engineering | TypeScript | Node.js | PostgreSQL | AWS | Docker | GitHub

- Built RESTful API and asynchronous worker services over a durable PostgreSQL command queue using FOR UPDATE SKIP LOCKED for concurrency control, plus idempotency, exponential-backoff retries and circuit breakers; added structured logging, Prometheus/Grafana monitoring and SLOs; implemented AWS CDK/CloudFormation for ECS/Fargate, RDS and CloudWatch; 5 automated backend tests and GitHub Actions CI workflow.

Analytics Data Platform - Data Engineering | Python | Airflow | PySpark | dbt | PostgreSQL | Docker | GitHub

- Built an ETL/ELT batch data pipeline from raw CSV through PySpark validation, deduplication and Parquet into PostgreSQL, then dbt staging and daily-sales marts with data-quality tests; Apache Airflow orchestrates the workflow and Docker Compose provides a reproducible local environment.

Jobscope - Swiss/EU Job Market Tracker - Backend / Data Engineering | Python | FastAPI | REST APIs | SQLAlchemy | Docker | GitHub

- Automated ETL and third-party API integrations across 200+ live job listings; built a JWT-authenticated FastAPI backend with SQLAlchemy, SQLite/PostgreSQL persistence, URL-normalized deduplication and TF-IDF cosine-similarity role matching.

Regulatory RAG Assistant - AI/ML / NLP | Python | FAISS | FastAPI | Docker | GitHub Actions

- Built an end-to-end RAG/NLP pipeline over regulatory PDFs with ingestion, overlapping chunking, sentence-transformer embeddings, FAISS vector search, semantic retrieval and FastAPI/Streamlit serving; Dockerized with pytest and GitHub Actions CI.

Causal Lab - Experimentation Toolkit - Data Science / Product Analytics | Python | SciPy | statsmodels | FastAPI | Streamlit | GitHub

- Built A/B testing, hypothesis-testing and causal-inference tooling with two-proportion z-tests, confidence intervals, power/MDE and test-duration analysis, sample-ratio-mismatch detection and two-way fixed-effects difference-in-differences with clustered standard errors; 7 pytest cases.

SQL Analytics Lab - Data Analytics / BI | SQL | Python | Streamlit | Cohorts | Funnels | GitHub

- Wrote analytical SQL with CTEs and window functions for weekly cohort retention, funnel conversion, growth metrics and KPI reporting (LAG, FIRST_VALUE, RANK/DENSE_RANK), surfaced in a Streamlit dashboard.

Additional Projects: Portfolio Website - full-stack/web development with HTML/CSS/JavaScript, live JD-Match tool and architecture case studies;

Labyscape - Unity 6/C#, 2-8 player host-authoritative networking, procedural DFS maze generation and NavMesh enemy AI (private repo; walkthrough on request).

EDUCATION

LUISS Guido Carli University - Rome, Italy | Sep 2023 - Jul 2026

Bachelor's Degree in Management and Computer Science (L-18)

- Relevant coursework: Algorithms; Databases & Big Data; Artificial Intelligence & Machine Learning; Statistics; Quantitative Models for Data Science; Finance & Financial Technologies; Management of Technology.

- Thesis: Tourism Dependence and Regional Macroeconomic Resilience in Italy - 21-region, 2015-2024 panel in R using Eurostat/ISTAT data, continuous-treatment difference-in-differences, two-way fixed effects and event-study analysis.

WORK EXPERIENCE

LUISS Language Cafe - Creative Manager Intern | Rome, Italy | Feb 2026 - May 2026

- Owned creative direction for social graphics, newsletters and event communications; coordinated with university stakeholders, managed multi-format deliverables and supported cross-functional campaigns aligned with programme objectives.

LANGUAGES

Turkish (Native) | English (C1) | French (B2) | Italian (B1) | Spanish (A1) | Mandarin Chinese (A1)