

AYLIN KARS

Software Engineering Student | Data Engineering, Analytics & AI
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PROFESSIONAL SUMMARY

Software Engineering student at CTU with hands-on experience building end-to-end data pipelines, processing structured and unstructured data, and developing AI-powered applications. Experienced with Python, SQL, Pandas, DuckDB, PostgreSQL, ETL/ELT, dimensional data modeling, REST APIs, Git, and CI/CD. Built a data engineering pipeline processing 541K+ retail transactions and led development of an AI document-processing system using embeddings, vector search, and Generative AI. Currently expanding hands-on knowledge of Apache Spark, PySpark, Databricks, and AWS.

EDUCATION

Czech Technical University in Prague (CTU) | Prague, Czech Republic

B.Sc. in Software Engineering | Sep 2023 - Expected Feb 2027

Relevant Coursework: Database Systems, Introduction to DevOps, Software Engineering, Algorithms and Data Structures, Object-Oriented Programming, Operating Systems, Computer Networks

TECHNICAL SKILLS

Programming & Data: Python, SQL, Pandas, NumPy, Java, C/C++

Data Engineering & Databases: ETL/ELT, Data Pipelines, Data Cleaning, Data Transformation, Data Validation, Data Quality, Dimensional Modeling, Star Schema, DuckDB, PostgreSQL, Parquet

Big Data & Analytics: Apache Spark, PySpark, Spark DataFrames, Spark SQL - developing hands-on knowledge

Backend & AI/GenAI: FastAPI, REST APIs, RAG, LangChain, LLM APIs, Embeddings, Semantic Search, Vector Databases, Document Processing

DevOps, Testing & Cloud: Git, GitHub, Docker, Pytest, GitHub Actions, CI/CD; AWS and Databricks - developing hands-on knowledge

EXPERIENCE

AI Document Chatbot - Project Team Lead | Czech Technical University in Prague | Feb 2025 - Feb 2026

- Led a development team using Agile practices to design and deliver an AI-powered document question-answering system, coordinating technical decisions, task planning, and product development.
- Built key components of a Python/FastAPI unstructured-data pipeline covering document ingestion, parsing, chunking, embedding generation, vector storage, and semantic retrieval.
- Developed REST API endpoints connecting document processing, retrieval, and Generative AI components; stored embeddings in ChromaDB and integrated retrieved context with an LLM for grounded responses.
- Evaluated retrieval performance using Hit@K, achieving 10/10 successful retrieval hits on the prepared evaluation dataset, while using Git for collaborative development and debugging.

PROJECTS

Retail Data Analytics Pipeline | Python | SQL | Pandas | DuckDB | Parquet | Pytest | GitHub Actions

- Built an end-to-end ETL pipeline processing 541K+ real-world retail transactions, including data ingestion, cleaning, transformation, validation, and analytical loading.
- Designed a star-schema data warehouse with customer, product, date, and country dimensions, enabling SQL-based analysis of revenue, sales trends, products, and customer activity.
- Cleaned and validated raw transactional data by handling duplicates, cancellations, invalid quantities, missing customer identifiers, and inconsistent records before loading curated datasets.
- Implemented automated data-quality and transformation tests with Pytest and configured GitHub Actions CI to validate the pipeline on every push and pull request.

Course Enrollment System | Java | Spring Boot | PostgreSQL | REST API | Docker | Git

- Built a backend application for managing students, instructors, courses, and enrollments with authentication, REST API endpoints, MVC architecture, and PostgreSQL integration.
- Containerized the application and database with Docker and structured the codebase into maintainable, reusable components using Git for version control.

LANGUAGES

Turkish: Native | English: Professional Working Proficiency (B2-C1) | Czech: Basic