

Fatih KAYA

Sr. Data Scientist

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Versatile Data Scientist with over 8 years of experience in advanced analytics, machine learning, and AI. Skilled at developing scalable, high-impact solutions across finance, e-commerce, healthcare, airlines, and digital marketing. Adept at leveraging generative AI and large language models (LLMs) to drive data-driven decision-making and enhance operational efficiencies.

SUMMARY OF QUALIFICATIONS

- **Machine Learning/AI:** Extensive experience in building and deploying custom ML & AI solutions, from advanced AutoML pipelines and deep learning to cutting-edge generative and agentic AI systems leveraging large language models (LLMs).
- **Programming Proficiency:** Expert in Python, R, and SQL.
- **Data Analysis & Visualization:** Proficient in Pandas, Matplotlib, Seaborn, Streamlit, and Plotly Dash.
- **Data Engineering:** Skilled in ETL processes, data warehousing, data lakes, and cloud computing environments (AWS, GCP, Azure, OracleDB, PostgreSQL).
- **Frameworks & Libraries:** Experienced with Scikit-learn, TensorFlow, Keras, PyTorch, XGBoost, and LightGBM.
- **Generative & Agentic AI:** Proven ability to integrate and deploy AI agents and LLMs using tools like the OpenAI API, Ollama, Llama3, Langchain, LangGraph, and CrewAI.
- **Marketing Analytics:** Expertise in customer segmentation, LTV calculations, purchase propensity, and Marketing Mix Modeling (MMM).
- **Continual Learning:** Dedicated to staying current with the latest breakthroughs in data science, AI, and machine learning technologies.

WORK EXPERIENCE

Sr. Data Scientist, PwC CZ - Czech (Remote)

June 25 – Present

- Developing and deploying **AI agents** on MCP server infrastructure.
- Building custom **MCP servers** and tools for production use.
- Delivering scalable, production-ready AI solutions for enterprise applications.

Sr. Data Scientist, EETech - Boise, Idaho, USA (Remote)

January 24 – September 25

- **Demand Forecasting:** Achieved **94% accuracy** in predicting up/down trends for electronic components, optimizing inventory management and reducing costs.
- **AI Based Data Extraction:** Spearheaded the integration of large language models to automatically extract product information from technical datasheets and web sources. Developed an **AI-driven** data filler system for client websites that operates **20 times faster** and is **100 times more cost-effective** than traditional methods.
- **AI Agent Integration:** Designed and deployed **custom AI agents** leveraging LLMs to automate complex document processing and content curation. This initiative improved technical document **coverage by 60%** over manual methods and streamlined client interactions with critical product data.
- **Technical Document Automation:** Implemented a robust PDF classification system for electronic component documents, achieving an **86% coverage ratio** and delivering **35% higher accuracy** compared to manual labeling.

Head Of Data & Insights, September 23 – May 24 Analytica House - Istanbul, Turkey (Remote)

- **Team Leadership & Management:** Directed a core data team of 5 professionals, managing multiple cross-functional projects in collaboration with analytics, performance, and SEO teams. Held full accountability for team budgeting, cost management, and ensuring profitable outcomes.
- **Data-Driven Marketing Optimization:** Automated ML and DL analyses to optimize client marketing strategies, delivering actionable insights that drove enhanced ROI.
- **Advanced Customer Analytics:** Integrated CRM and cookie data to enable precise customer segmentation, LTV calculations, and purchase propensity analysis.
- **Advertising & Performance Enhancement:** Leveraged channel-specific metrics and Marketing Mix Modeling to optimize advertising budgets and boost overall marketing performance.

Sr. Data Scientist, Organon Analytics - Istanbul, Turkey (Remote)

October 22 – September 23

- **AutoML Tools Development:** Contributed to the development and testing of the "Autonon" Python library, automating SQL operations, feature extraction, data quality management, and ML algorithms.
- **Consumer Behavior & Demographic Analysis:** Developed predictive models for Turkey's largest beverage company by leveraging geolocation demographic data from the leading telecom provider. These models forecasted brand-specific consumption patterns, guided the strategic opening of new sales points, optimized planogram configurations, and predicted consumption volumes to better plan sales point visits.
- **Demand Forecasting:** Led a project to predict daily food and beverage requirements for Pegasus Airlines, optimizing inventory management and enhancing operational performance.
- **Clinical Test Validation:** Collaborated with Biruni Labs to apply AI in clinical test validation during product development, improving accuracy and reliability while reducing dependency on manual doctor assessments.
- **Fraud Detection:** Developed and implemented ML solutions for fraud detection in partnership with KKB (Credit Bureau of Turkey), significantly boosting the accuracy and efficiency of fraud prevention measures.

Sr. Data Scientist, Analytica House - Istanbul, Turkey (Remote)

February 22 – October 22

- **Led the first deployment of Meta's Robyn Marketing Mix Modeling tool in Turkey,** improving advertising efficiency and driving a 20% revenue increase.
- Managed team workflows and provided training on analysis techniques and technical best practices.
- Developed AI-driven solutions for e-commerce clients to enhance audience targeting and optimize advertising expenditure by leveraging DataBricks to streamline data processing and accelerate machine learning workflows for robust data-driven decision-making.

Data Scientist, Financial Analyst, Vakifbank - Istanbul, Turkey (Hybrid)

September 16 – February 22

- **Probability of Default Modeling:** Developed and refined models to predict the probability of default based on customers' financial statements and financial behaviors. Applied traditional models such as logistic regression to ensure compliance with regulations and provide interpretability.
- **Advanced ML and DL Solutions:** Implemented advanced machine learning (ML) and deep learning (DL) techniques for enhanced predictive accuracy. Compared performance across traditional and modern models, utilizing techniques such as ensemble methods and neural networks.
- **Model Validation and Comparison:** Conducted comprehensive validation and comparison of traditional and ML/DL models. Analyzed performance metrics to select the most robust model and improve default prediction accuracy.
- **Explainability and Compliance:** Addressed the challenge of explaining black box models, providing clear and interpretable insights into model decision-making processes to meet regulatory requirements and ensure transparency.
- **Financial Statement Analysis:** Gained extensive experience in analyzing financial statements, using insights

to enhance model features and improve prediction accuracy.

EDUCATION

Uludag University, Turkey
Bachelor of Science – Econometry – 2010 - 2014

SKILL HIGHLIGHTS

Data Visualization/Prototyping: Google Data Studio, Plotly, Dash, Matplotlib, Seaborn, Streamlit, Django, Fastapi, Selenium, Beautiful Soup web scraping

Techniques: CRM Analysis, CLTV, Basket Analysis, Attribution Modeling, Credit Risk Analysis, Fraud Detection, Budget Allocation, Marketing Mix Modelling, Text Mining, Large Language Models, Transformers, LLM Agents

Tools and Frameworks: Python (Keras, Tensorflow, Scikit-learn, Pytorch, Pandas, Numpy, XGBoost, LightGBM, Ollama, Llama3, Langchain,, CrewAI), Hadoop, Apache Spark, Databricks, SQL(MySQL, OracleDB, PostgreDB), AWS, GCP, Azure,

Soft Skills: Analytical thinking, Problem solving, Team work, Innovative, End-to-end approach, Continual Learning