Yucel Yavuz

AI Data Scientist | Generative AI Practitioner | Machine Learning Specialist

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SUMMARY

Innovative and results-oriented AI Data Scientist with 5+ years of expertise in machine learning, data analytics, and Python-based modeling, complemented by 10+ years of cross-functional leadership experience. Skilled in developing and deploying advanced AI solutions, including LLM-powered agents for media planning, SQL automation, document summarization, and sentiment analysis. Proficient in leveraging Python (Scikit-Learn, XGBoost, SHAP), big data platforms (Databricks, Snowflake, SQL), and BI tools (Tableau, Power BI) to translate complex data into actionable business insights. Adept at applying interpretable models, SHAP analysis, and Generative AI to drive strategic decision-making and measurable impact.

TECHNICAL & SOFT SKILLS

AI, Machine Learning & Analytics: Generative AI • Agentic AI • LangChain • LangGraph • RAG • Snowflake Cortex • Sentiment Analysis • SHAP & LIME Explainability • A/B Testing • Supervised & Unsupervised Learning • Logistic Regression • Random Forests • Gradient Boosting • XGBoost • PCA • Cluster Analysis • Time Series Forecasting

Programming Tools & Platforms: Python • PySpark • SQL (Snowflake) • Streamlit • Scikit-Learn • TensorFlow • Keras • H2O.ai • Pandas • NumPy • Databricks • Docker • Git/GitHub • CI/CD

Visualization & BI: Tableau • Power BI • Plotly • Matplotlib • Seaborn • Automated Dashboarding

Leadership: Team Coaching & Mentorship • Cross-Functional Collaboration • Strategic Initiative Leadership • Stakeholder Engagement

PROFESSIONAL EXPERIENCE

Horizon Media – *New York, NY*
AI Data Scientist | Generative AI | *Apr 2023 – Present*

- **Architected LLM-driven analytics solutions** (LangChain, Streamlit, Snowflake Cortex) that interpreted demographic and behavioral data, accelerating stakeholder decision-making by **35%** and cutting manual reporting by **40%**.
- **Developed interpretable AI frameworks using SHAP**, improving model transparency and stakeholder confidence, leading to **20% faster adoption** across analytics workflows.
- **Engineered Databricks–Snowflake pipelines** leveraging **XGBoost, Random Forest, and Gradient Boosting**, achieving **92% accuracy** in LTV and look-alike models, optimizing campaign efficiency by **15%**.
- **Performed segmentation and behavioral analysis** (RFM, K-Means, Hierarchical Clustering) identifying high-value audiences that increased retention by **12%**.
- **Built a scalable growth analytics framework** integrating behavioral, temporal, and transactional insights to pinpoint key conversion levers and drive personalized growth strategies.
- **Designed interactive Tableau and Power BI dashboards** visualizing 1P metrics, cross-sell trends, and behavioral clusters—reducing insight turnaround by **30%** and enabling real-time planning.
- **Delivered ML- and GenAI-driven audience profiling and clustering models** that refined audience definitions and strengthened new business pitches, helping secure **two major client wins** and expand personalization frameworks.
- **Applied causal inference methods** (Difference-in-Differences, Propensity Score Matching, A/B Testing) to quantify campaign impact and deliver statistically robust ROI assessments for multi-million-dollar media investments.

Bowery Farming – Kearny, NJ
Data Scientist | Operations Manager | Sep 2018 – Apr 2023

- Developed predictive yield models comparing **7 ML and 1 DL algorithm**, increasing yield accuracy **by 10%** and improving production planning.
- Built automated **production dashboards**, enhancing productivity **by 25%** and warehouse efficiency **by 20%**.
- Introduced machine learning-driven process optimization that **reduced packaging losses by 20%**.
- Created a Team Lead Development Tool and training program that **promoted 6 employees, reducing turnover to 2%.**
- Created **a great team culture where employees worked efficiently** while ensuring production compliance with company quality, sanitation, and food safety standards [2019 and 2020 SQF (Safe Quality Food) results were 98% and 2021 SQF result was 99% - Excellent].

Teleplan, *Mechanicsburg, PA*
Sr. Analyst | Supply Chain | *Jan 2017 – Sep 2018*

- Developed a **supply chain analytics dashboard** improving efficiency by **$150K** in 8 months and supplier performance to **92.6%**.
- Streamlined forecasting, procurement, and vendor workflows, achieving **99.8%** cycle count accuracy.
- Introduced analytical process improvements that optimized material reuse and cost savings initiatives.

Turkish Army, Ankara/Turkey
Operations and Analytics Manager | *Aug 2001-April 2016*

- Spearheaded **10+ strategic analytics projects**, saving **$300K** in resource allocation.
- Designed regression-based forecasting models for personnel and logistics planning.
- Delivered **data-driven reports and dashboards** for executive decision-making across multiple departments.

RECENT PROJECTS

- **AI Media Planning Agent – Multi-Agent LLM System for Marketing Strategy**
  Python, LangGraph, LangChain, OpenAI, Streamlit

  Developed a LangGraph-based multi-agent AI system (Supervisor, Business Intelligence Expert, Product Expert, Media Planning Expert, Creative Strategy Expert, Email Writer) to automate end-to-end marketing workflows—turning natural language prompts into data insights, targeted media plans, creative strategy, and personalized email campaigns.

- **Product Sentiment Analysis – YouTube-Based Consumer Insight Generator**
  Python, LangChain, OpenAI, Streamlit, YouTube API

  Built an LLM-powered sentiment analysis tool aggregating and classifying YouTube comments to deliver real-time product perception dashboards.

- **Business Intelligence Agent – Natural Language to SQL & Chart Generator**
  Python, LangGraph, LangChain, OpenAI, Plotly, SQLite

  Engineered an AI agent translating natural-language questions into SQL queries, producing visual analytics and executive summaries with auto-generated insights.

- **Marketing Assistant CoPilot – PDF Insights & Summarization Tool**
  Python, Streamlit, LangChain, OpenAI, FAISS

  Built a chat-enabled app that allows users to upload PDFs and either summarize documents using customizable templates or query them via natural language. Combined LangChain's RAG architecture with history-aware retrieval, OpenAI LLMs, and FAISS vector search to deliver contextual insights and executive-ready summaries.

- **Snowflake Cortex – Streamlit-Powered Business Analyst Tool**
  Python, Snowflake Cortex, Streamlit, SQL

  Created an interactive natural-language BI app for querying Snowflake data, producing SQL, visual outputs, and executive summaries dynamically.

EDUCATION

- **U.S. Army War College – Carlisle, PA**
  International Fellows Academic Prep Course

- **Turkish National Defense University – Ankara, Turkey**
  Ph.D. (Pending), Technology Management
  M.S., Technology Management
  B.S., Systems Engineering

- **Turkish Army War College – Istanbul, Turkey**
  M.A., Organizational Management & Leadership | 2008 – 2010

CERTIFICATIONS

- Generative AI for Data Scientists – *IBM*
- Generative AI Bootcamp – *Business Science*
- Master Machine Learning for Data Science & AI - *CodeBasics*
- Databricks Mosaic AI – *Coursera*
- Certified Management Executive (CME) – *Management & Strategy Institute*