

Sena Saygın Şenyüz

Industrial Engineer — AI & Data for Manufacturing and Supply Chain

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Between Türkiye and Serbia · fully aligned with European hours · open to remote · Turkish (native),
English (B2)



PROFILE

Industrial engineer working at the intersection of three disciplines: **artificial intelligence, industrial engineering and business analysis**. Planned production on the factory floor for over two years — bill of materials, ERP, scheduling — then retrained full time in machine learning and business analysis. Built an end-to-end ML pipeline that predicts late delivery across 180,519 supply-chain orders, raising the F1 score from 0.39 to 0.71 by removing data leakage and tuning the decision threshold against business cost. Combines first-hand manufacturing knowledge with Python and SQL to turn operational data into decisions — and to flag the decisions the data cannot yet support.

CORE SKILLS

AI and data: Python, SQL, pandas, scikit-learn, XGBoost, model evaluation, threshold tuning, feature engineering, data-leakage detection, anomaly detection, Gemini API, n8n, LLM agents (tool use, memory), Power BI, IBM Cognos, Excel

Industrial engineering: production planning, capacity and lead-time planning, scheduling, bill of materials (BOM), MRP, stock control, Logo ERP, R-MES, MS Project, Gantt charts

Business analysis: ECBA® (IIBA) approach, requirements elicitation, prioritisation and management, as-is / to-be process modelling, acceptance criteria, stakeholder analysis, Jira, Miro, Trello, Draw.io

EXPERIENCE

Independent Reskilling — Artificial Intelligence and Data

Feb 2024 – Present

Full-time self-directed programme · Türkiye / Serbia

- Completed the **Machine Learning Specialization** (Stanford Online & DeepLearning.AI) and the **ECBA®** business analysis certification (IIBA).
- Completed two AI modules at the **Data Analysis School** (YÖK, ~85 hours each): generative AI and large language models, supervised and unsupervised learning, and tooling that speeds up data analysis.
- Built and published an end-to-end late-delivery prediction pipeline and a 33-node agentic workflow; both are public on GitHub.

Production Planning Engineer

Apr 2023 – Feb 2024

Vimpo Road Construction Machines · Türkiye

- Derived material shortages from bills of materials and managed the production calendar accordingly.
- Coordinated procurement to protect delivery dates; tracked order status across four project-based manufacturing jobs.
- Contributed to the product roadmap from the planning side.

Production Planning Engineer

Dec 2021 – Apr 2023

Şenkardeşler Motorlu Araçlar (TRAPİ) · Türkiye

- Ran two planning projects end to end and built more than fifteen Gantt charts in MS Project.
- Handled order tracking, material planning and stock control through Logo ERP and R-MES.
- Worked the daily gap between plan and reality: missing material, slipping deadlines, resequenced jobs.

Intern Engineer

2018 & 2021

Yemmak Makina · Bais Makina · Türkiye

Supply-Chain Late-Delivery Prediction

Python · XGBoost

github.com/senasayginsenyuz/supply-chain-late-delivery-ml · DataCo open dataset

- End-to-end pipeline over **180,519 order records**: cleaning, feature engineering, four-model comparison, evaluation and documentation.
- Detected and removed **three data-leakage columns** (Delivery Status, Days for shipping (real), shipping date) that are only populated after delivery and let early models "predict" the answer.
- Reduced the feature set from 53 to 25 and raised F1 from **0.39 to 0.71** with a tuned XGBoost model; train 0.713 / test 0.714, so no overfitting.
- Framed threshold selection as a business decision: at 0.35 the model catches 99.8% of late orders but only 57.4% of alarms are real; at 0.50 precision reaches 87.4% at the cost of missing 44% of delays. Documented the trade-off explicitly.
- Ran a data-ceiling experiment showing performance was data-limited, not model-limited: added features left F1 unchanged; the true drivers (weather, traffic, carrier reliability) are absent from the dataset.

Document Control Agent

n8n · Gemini · Notion

github.com/senasayginsenyuz/document-control-agent

- A **33-node agentic workflow** that classifies incoming mail by urgency and document type, archives attachments, and answers questions by querying Notion **as a tool**.
- Memory-backed LLM agent with a Telegram command interface; personal data anonymised before publication.

Linear Regression From Scratch

NumPy

github.com/senasayginsenyuz/car-price-linear-regression

- Cost function, gradient and gradient-descent update rule implemented by hand, without library shortcuts.

EDUCATION**BSc Industrial Engineering**

2016 – 2021

Atılım University · Ankara, Türkiye

CERTIFICATIONS

- 2026 **Machine Learning Specialization** — Stanford Online & DeepLearning.AI (Coursera)
- 2026 **Artificial Intelligence 1** — Data Analysis School (YÖK)
- 2026 **AI Facilitator Applications** — Data Analysis School (YÖK)
- 2025 **Entry Certificate in Business Analysis (ECBA®)** — IIBA
- 2025 **Python for Everybody (PY4E)** — University of Michigan (Coursera)
- 2025 **End-to-End SQL Server Training** — Udemy
- 2023 **Business Analysis Specialist Certificate** — Istanbul Technical University
- 2023 **Business Analyst Practicum** — Patika.dev & FMSS Bilişim