## Contact

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www.linkedin.com/in/sinanbilir (LinkedIn)
github.com/MrSiNun (Portfolio)

## Top Skills

Healthcare-Focused Machine Learning:

shap

cnns

## Languages

Turkish (Native or Bilingual)

English (Native or Bilingual)

## Certifications

Certificate of Achievement - Customer Relationship Management

Certificate of Achievement - Strategic Management and Leadership

VISION Green Supply Chain

Machine Learning with Python: Foundations

Brain Trainer Madrid 2013

# SINAN BILIR

Artificial Intelligence & Data Scientist | Machine Learning • Neural Networks • Healthcare AI • Multi-Omics • Business Intelligence • Cloud Computing
London, England, United Kingdom

## Summary

I am a data scientist with expertise in Python, SQL, and machine learning frameworks such as TensorFlow, Scikit-Learn, and XGBoost. My focus areas include predictive modelling, deep learning, and data analysis in healthcare and environmental domains. I am proficient in tools like Jupyter, Pandas, and Matplotlib for building scalable, AI-driven solutions. I am currently leading a pioneering multi-omics research project—the first of its kind —on neonatal jaundice risk prediction. This initiative integrates gene expression, metabolomics, and synthetic clinical data using advanced ML techniques, and involves collaboration with NHS, the University of Liverpool School of Medicine, and PhysioNet. My technical skills span CNNs, LSTMs, BERT, SHAP, MLOps (Docker, CI/CD, MLflow), cloud platforms (AWS, GCP, Azure), and BI tools (Power BI, Tableau, Streamlit). I have full UK and Türkiye work rights and am open to remote or relocation opportunities.

Core Highlights:

Deep Learning & AI:
Achieved 97.6% accuracy in a pneumonia detection system using CNNs, TensorFlow, and advanced techniques like transfer learning and k-fold cross-validation.

Machine Learning Applications:
Developed predictive models (Random Forest, XGBoost) for atmospheric emissions analysis, leveraging Scikit-Learn, Jupyter Notebook, and advanced data visualization tools like Matplotlib and Seaborn.

Database & Analytics:
Designed and managed data workflows, enhancing data quality and accessibility for large-scale projects.

Business Intelligence & Retention:
Leveraged data insights to drive customer retention strategies and optimize marketing intelligence efforts.

Skills:

Deep Learning (CNNs, TensorFlow, Artificial Neural Networks)
Machine Learning (Random Forest, XGBoost, Scikit-Learn)
Data Visualization (Matplotlib, Seaborn)
Data Analytics & Marketing Intelligence
Jupyter Notebook & Kaggle API
Application Programming Interfaces (APIs)
Software Deployment
Cloud Computing

I am passionate about combining data science and AI to create impactful solutions that drive innovation and support decision-making.

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# Experience

University of Liverpool | Research, Partnerships and Innovation
Lead Researcher – AI & Multi-Omics Integration ( under Dissertation Project )
December 2024 - Present (1 year 2 months)
Liverpool, England, United Kingdom

Leading a pioneering biomedical AI project—the first known study to integrate multi-omics data (gene expression, metabolomics) with synthetic clinical datasets (Synthea, NEST360) to predict neonatal jaundice risk. The project is part of the MSc in Data Science & AI programme and contributes to translational healthcare innovation.

Key Responsibilities & Achievements:
Designed and implemented a full-stack machine learning pipeline tailored to healthcare data, including data ingestion, preprocessing, feature engineering, and model evaluation.

Integrated multi-omics data with synthetic neonatal clinical records, creating a harmonized dataset for supervised learning and unsupervised discovery (e.g., PCA, K-Means).

Applied and fine-tuned various models (Random Forest, XGBoost, CNNs), utilizing cross-validation and SHAP for interpretability, achieving clinically relevant predictive performance.

Built an interactive Streamlit app to facilitate clinician-friendly deployment and visual exploration of prediction results.

Collaborated with NHS Digital Health Units and the University of Liverpool School of Medicine to align outcomes with real-world clinical pathways.

Utilized biomedical data platforms including PhysioNet to supplement and validate synthetic datasets in accordance with data governance and research ethics.

Emphasized reproducibility and MLOps by employing GitHub for version control and designing modular, extendable codebases in Jupyter and Python.

Key Tools & Technologies:
Python, Scikit-Learn, XGBoost, TensorFlow, Pandas, Streamlit, SHAP, PCA, GitHub, Jupyter, Synthea, NEST360, PhysioNet, Power BI (for interim visualizations), NHS-aligned clinical formats

MGL Licensing
Data Scientist
February 2024 - June 2024 (5 months)

• Conducted customer segmentation using K-means clustering on e-commerce transaction data, leading to the implementation of personalized marketing strategies and increased customer retention by 20%
• Developed data visualization dashboards using Matplotlib and Seaborn to provide actionable insights to stakeholders, facilitating real-time decision-making for marketing and product teams
• Performed A/B testing to identify effective customer engagement strategies and improved marketing ROI.

British Airways
Jr Data Scientist

March 2024 - May 2024 (3 months)

•I worked on predictive analysis for British Airways. The goal was to predict customer bookings based on various features such as sales channel, trip type, route, and booking origin.

•I performed exploratory data analysis, feature engineering, and trained a Random Forest Classifier model.

•Developed a machine learning model to predict booking completion for British Airways customers.

•Conducted exploratory data analysis to identify patterns and trends in customer behaviour.

•Engineered features from existing data, including creating new columns for origin and destination airports.

•Achieved an accuracy of 85% on the test set using the Random Forest Classifier.

•Presented findings and insights to stakeholders, contributing to data-driven decision-making.

Skills used: Python, Pandas, Scikit-learn, Random Forest, Data Analysis, Data Visualization

## Antal TECH jobs
Sales & Operations Business Analyst - Lead Consultant
August 2022 - April 2023 (9 months)
64 Baker Street, London

Main Duties Performed:

• In charge of fully operating the niche job board including entire back-end & front-end developments.

• Maximize User Experience of website

• Report to CFO of Antal International.

• Maintain continuous improvement of website traffic and performance by using various software solutions like Cyfe or Zoho CRM, by using google analytics, LinkedIn analytics and Cognism, by improving SEO and by targeting maximum UX optimization

• Drive the business growth, exposure, and momentum of the niche tech platform.

• Increase the number of clients by advertising their vacancies.

• Attracting candidates.

• Participate fortnightly discipline calls with other Antal Franchise or Antal Office Teams in 35 countries to build collaborations.

• Create Partnering Company Projects and nurture various partnerships.

• Overlap with marketing and IT departments to enhance and promote the site.

• Design, create and publish tech news, career advice, cyber security or fintech themed blogs.
• Apply, monitor and improve every step of sales cycle; lead data gathering, cold calls, demo presentations, all the way to subscription renewal and anything in-between predominantly in INDIA, UAE, SPAIN and ROMANIA.
• Conduct various marketing campaigns to sustain website candidate registrations & job applications, to manage sales cycle with job advertising clients and with partnering companies. e.g.; Create Social Media Contents and Publish Them ( carousels, tech articles in cyber security and fintech, polls, Top Jobs Videos etc. ), Promo Cod Campaigns, Salary Survey Projects, Advertise Job Board on Magazine Interviews, Run Job Alert Featuring Campaigns.

SB Sales and Marketing Consultancy, London
Business Intelligence Consultant
April 2019 - March 2022 (3 years)
London Area, United Kingdom

Developed and implemented data-driven strategies to generate new business opportunities, leading to a 15% increase in sales revenue.

Utilized Python for predictive modeling to optimize future business strategies and improve decision-making.

Designed and maintained business intelligence solutions to analyze sales performance and market trends, empowering stakeholders with actionable insights.
Leveraged advanced SQL queries to identify trends for strategic planning and optimize large-scale datasets for sales and marketing teams.

Applied data-driven techniques to enhance customer segmentation, improve sales forecasting, and elevate overall campaign performance.

Introduced sales enablement technology to drive a 30% increase in lead generation and boost lead conversion rates by 5%.

Analyzed sales data to optimize the entire sales cycle, achieving an impressive 50% closing rate and improving resource allocation.

Coordinated data-driven logistics to ensure timely deliveries, contributing to a 45% increase in customer satisfaction.

Presented value-driven insights to stakeholders, enhancing product positioning and driving customer engagement.

Supported sales leadership in identifying new business opportunities through advanced data analytics, ensuring sustainable growth.

ANT KALIP M&G Group
Senior Sales Data Analyst
February 2017 - February 2019 (2 years 1 month)
Kocaeli, Turkey

Sales and Operations Analytics: Leveraged SAP ERP (Sales and Distribution Module) and Microsoft Excel to analyze sales trends, monitor KPIs, and optimize operational workflows, improving forecasting accuracy and sales efficiency.
Data-Driven Decision Making: Developed and implemented procurement optimization strategies using SQL and data analytics tools, reducing lead times and enhancing supply chain operations.
Customer and Key Account Analysis: Analyzed client purchasing behavior and historical sales data to identify patterns, resulting in targeted strategies that increased customer acquisition and retention.
Project Oversight and Performance Monitoring: Utilized MIS reports and dashboards to track project performance, ensuring alignment with sales targets and delivering actionable insights for strategic improvements.
Data Visualization: Created detailed sales and performance reports using tools like Microsoft Power BI and Excel Pivot Tables, enabling stakeholders to make data-backed decisions.
International Sales Insights: Conducted market analysis through Google Analytics and customer feedback data to refine product positioning and strategy for international HVAC exhibitions (ISH Frankfurt, Climate World Moscow).
Supervised Teams with Data Metrics: Mentored junior staff while tracking performance metrics to ensure team alignment with organizational goals.
Collaboration with Logistics: Coordinated inventory analysis and delivery schedules, improving stock management accuracy by 30% and ensuring timely fulfillment of orders.
Key Achievements:

Reduced procurement processing time by 20% through data-driven optimization.

Increased sales efficiency by 15% through improved analytics and operational streamlining.

Identified customer trends that boosted retention rates by 10% through targeted relationship management strategies.

SQL | SAP ERP | Microsoft Excel | Power BI | Google Analytics | Zoho CRM | Data Visualization | Pandas | Data Analysis | MIS Reporting

## Armetal Montaj Elektrik Ağaç Taahhüt San. Tic. Ltd. Şti.
Management Intern
June 2016 - August 2016 (3 months)

Main duties performed:

• Expertise in building Material Requirement Planning (MRP) in Mikro

• Experienced using Arena to simulate Productivity, Efficiency and Utilization

## Webasto Group
Production Planning
October 2015 - July 2016 (10 months)
Manisa, Turkey

Industrial Engineering Bachler's Degree Dissertation - Kanban and Pull Production System Design under Lean Management

## Bosch Termoteknik
External Procurement&Purchasing Responsible
July 2014 - March 2015 (9 months)

Main duties performed:

• In charge of closing open purchasing orders and pending orders. I have closed 13.000 number of open orders in 9 months.

• Overseeing unconformities and reporting them

• Attending internal and external purchasing meetings in different cities e.g., Manisa, Bursa, Istanbul.

• Led the purchasing processes of one of the most essential production lines called JIT (Just In Time)

• Liaising with the internal client and external supplier in daily basis

## ARTEMIS Construction Materials Marketing Joint Stock Company
Production & Design Intern
July 2012 - September 2012 (3 months)

One project was assigned to me by the General Manager. My project was about designing a new productby using Solid-Works. From the beginning

to the end, I had three mentors who were experts in their departments and they taught me how to use SolidWorks.I have collected all the relevant data regarding to my project from the workers, the database, treasurer department, the IT Manager and the Quality Control Manager. I met some clients from Sweden and during the meeting realized some missing sign parts of the production department. Afterwards, I had some researches about 5S and designed a little simulation of the department's layout to present the Board Members.At the end of the project, I have presented a new product idea by using its prototype and three problem solutionsto the Board Members.

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## Education

University of Liverpool
Master of Science - MS, Data Science & Artificial Intelligence · (June 2023 - September 2026)

University of Massachusetts, Amherst
 · (2014 - 2015)

Dokuz Eylül Üniversitesi
Bachelor of Applied Science - BASc, Industrial Engineering · (2011 - 2016)