Baha Buyukates

Computer Engineer | Data, Software and Industrial Systems
European Union Citizen – No Visa Sponsorship Required – Immediately Available
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Profile

Data-oriented Computer Engineer with hands-on experience in artificial intelligence, business intelligence, and industrial data systems. Focused on transforming raw shop-floor data into reliable, scalable, and decision-support-driven digital solutions.

Technical Skills

- **Data Analysis and BI:** Power BI, SQL, Excel, DAX, Star Schema, KPI Reporting (OEE, MTTR, MTTF)
- **Programming Languages:** Python, C, C#, JavaScript, SQL
- **Artificial Intelligence and ML:** PyTorch, TensorFlow, Scikit-learn, OpenCV, Convolutional Neural Networks
- **Industry 4.0 and IoT:** PLC, SCADA, OPC UA, MQTT
- **DevOps and Cloud:** AWS, Docker, Kubernetes, Jenkins, CI/CD
- **Enterprise Systems:** SAP S/4HANA, SAP Fiori

Professional Experience

AI Trainer October 2025 – Present
Outlier Remote

- Trained and evaluated large language models to improve code generation and reasoning capabilities.
- Contributed to data annotation, prompt engineering, and quality assurance workflows.

C# .NET Developer Intern August 2024 – September 2024
Prestij Information Systems R&D Inc. Bursa, Turkey (Hybrid)

- Developed Hospital Information System (HIS) modules using .NET and SQL Server.
- Participated in version control and code review processes using Git.
- Assisted in troubleshooting and system maintenance to ensure operational stability.

IT Intern July 2024
Sanofi Luleburgaz, Turkey

- Provided support for hardware maintenance, networking, and IT operations.
- Gained exposure to SAP S/4HANA and SAP Fiori within a corporate ERP environment.

IT Intern August 2023 – September 2023
Kirklareli State Hospital Kirklareli, Turkey

- Delivered hardware and network support, reducing workstation downtime.
- Performed routine IT maintenance and troubleshooting tasks.

Selected Projects

Smart Factory Digitalization Platform
Machine learning-based defect prediction and KPI analytics system for manufacturing lines.
Technologies Used:

- **Language:** Python
- **Libraries:** Pandas, NumPy, Scikit-learn, Matplotlib
- **Data:** 8,000-row dataset including temperature, line speed, shift, operator experience, and machine age
- **Analytics:** Logistic Regression, Random Forest, ROC-AUC
- **Architecture:** Data preprocessing → Feature engineering → Modeling → Evaluation

Responsibilities and Contributions:

- Performed outlier removal, standardization, and categorical encoding.
- Trained and compared multiple ML models for defect prediction.
- Identified key production factors using feature importance analysis.
- Linked MES and ERP KPIs to model outputs for decision support.

Industry 4.0 IoT Predictive Maintenance Platform
End-to-end predictive maintenance system using industrial sensor data.
Technologies Used:

- **Backend / Pipeline:** Python, Node-RED
- **IoT Communication:** OPC UA, MQTT
- **Database:** PostgreSQL (Star Schema)
- **AI Model:** PyTorch (LSTM)
- **Reporting:** Power BI
- **DevOps:** Docker, Docker Compose

Responsibilities and Contributions:

- Generated sensor data via OPC UA simulation and streamed it using MQTT.
- Built a real-time ETL pipeline and stored data in a structured warehouse.
- Developed an LSTM-based model to predict failure probabilities.
- Created dashboards displaying OEE, MTTR, and MTTF metrics.

Drumveil Ritual – Metal Drum Transcription
Audio source separation and drum transcription prototype for metal music recordings.
Technologies Used:

- **Language:** Python
- **Libraries:** PyTorch, Demucs, Librosa, NumPy
- **Audio Processing:** Spectrogram analysis, onset detection, MIDI transcription approach
- **Data:** Slakh dataset and real-world metal recordings

Responsibilities and Contributions:

- Applied source separation on metal tracks using the Demucs model.
- Designed a spectrogram-based audio processing pipeline.
- Implemented onset detection and frame-based transcription logic for drum sounds.
- Validated the prototype on short audio segments due to hardware limitations.

NeuraVeil – MRI Tumor Classification System
Multi-class brain tumor classification using MRI images.
Technologies Used:

- **Language:** Python
- **Libraries:** PyTorch, TensorFlow, OpenCV
- **Models:** CNN, Transfer Learning (EfficientNet, ResNet)
- **Optimization:** Dropout, L2 Regularization, Optuna

Responsibilities and Contributions:

- Designed an image preprocessing and data preparation pipeline.
- Trained multiple deep learning models using transfer learning techniques.
- Reduced overfitting through regularization and hyperparameter tuning.

Heart Disease Prediction with Machine Learning
Baseline machine learning study for heart disease risk prediction using structured clinical data.
Technologies Used:

- **Language:** Python
- **Libraries:** Pandas, NumPy, Scikit-learn
- **Data:** Heart Failure clinical dataset

- **Models:** K-Nearest Neighbors, Logistic Regression, Decision Tree
- **Evaluation:** Accuracy, Precision, Recall, F1-score

Responsibilities and Contributions:

- Performed data cleaning, encoding, and normalization on the clinical dataset.
- Trained multiple classical machine learning models for comparative analysis.
- Evaluated models using standard classification metrics.
- Selected the best-performing model based on balanced precision and recall.

For additional projects and detailed implementations, please visit my personal website or LinkedIn profile.

Education

Trakya University — Edirne, Turkey
Bachelor of Science in Computer Engineering — September 2021 – January 2026

GEN Academy — Remote
Artificial Intelligence and Software Development — September 2024 – June 2025

Certifications

- AWS DevOps – Continuous Delivery and Automation
- Docker, Kubernetes, Jenkins
- Microsoft Azure AI Essentials
- Apache Spark Essentials
- Industrial Automation and IoT

Languages

Turkish (Native) English (B2) German (A2 – B2 in Progress)