İmdat Sönmez

+90 542 286 78 30 | imdatsonmez9@gmail.com | linkedin.com/in/imdatsonmez | github.com/sonmez9

EDUCATION

Dokuz Eylül University   İzmir, Turkey
Bachelor of Science in Computer Engineering   *Sep. 2022 – June 2026 (Expected)*

EXPERIENCE

Otek Yazılım Bilişim Çözümleri A.Ş.   July 2025 – Sep. 2025
Software Engineering Intern   *İzmir, Turkey*
- Engineered a high-performance **"Digital Twin"** visualization platform for Istanbul Airport (IGA), translating complex operational processes into a web-based 3D monitoring environment using **ASP.NET Core** and **CesiumJS**.
- Implemented **3D Tiles** streaming and **LOD (Level of Detail)** management mechanisms to render massive architectural datasets seamlessly in web browsers, ensuring fluid user interaction.
- Achieved millimeter-level geospatial precision by integrating local 3D models into the global **WGS84 coordinate system**, enabling accurate real-time asset tracking.
- Developed a cross-platform GIS application (Windows, Android, iOS) using **.NET MAUI** and **Esri ArcGIS Runtime**, managing complex 2D/3D geometry drawings and spatial data.

PROJECTS

AI-Based ECG Analysis System (TÜBİTAK 2209-A) | *Python, PyTorch, ViT, Flask*   Oct. 2025 – Present
- Developing an interpretable decision support system to classify ECG signals using **Vision Transformers (ViT)**.
- Benchmarking performance against CNN models and integrating **Grad-CAM (XAI)** for clinical validation.

Automated Machine Learning (Auto-ML) Platform | *Python, Streamlit, Scikit-learn*   Dec. 2025
- Developed an end-to-end data analysis tool using **Streamlit** that automates the ML pipeline (EDA, Training).
- Engineered a dynamic preprocessing module for automated Feature Selection and real-time model benchmarking.

IoT-Supported Smart Agriculture System | *C++, ESP32, Python, TensorFlow*   Nov. 2025
- Built an end-to-end IoT solution using **ESP32-CAM** and Deep Learning (MobileNetV2) for plant disease diagnosis.
- Optimized embedded firmware in **C++** for efficient memory management (PSRAM) and real-time telemetry.

3D Model Optimization & Automation Tool | *Python, MeshLab, 3D Tiles*   Oct. 2025
- Developed a pipeline automation tool to convert raw GLB assets into web-ready **3D Tiles**, reducing polygon complexity by 80% using **Mesh Decimation** algorithms and automated LOD generation.

TECHNICAL SKILLS

Languages: C#, Python, JavaScript, SQL, C++ (Arduino), HTML/CSS, Java
Frameworks: ASP.NET Core MVC, .NET MAUI, Flask, React, Streamlit, TensorFlow/Keras
Libraries & Tools: PyTorch, CesiumJS, Esri ArcGIS, Scikit-learn, OpenCV, MeshLab, Pandas, ESP32, Docker, Git
Concepts: OOP, Design Patterns, REST APIs, GIS, Digital Twin, IoT Protocols, Auto-ML, Computer Graphics, Algorithms