

Turgay Bulut

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EDUCATION

Ozyegin University

Bachelor of Science in Computer Science, 3.76/4.00

Istanbul, TR

Sep. 2020 – June 2025

EXPERIENCE

Software Engineer Intern

GE Aerospace

August 2024 – Present

Istanbul, TR

- Spearheading the development of advanced AI features for GE's Flow Simulator application, implementing LSTM-based prediction models using TensorFlow, aimed at enhancing simulation usage efficiency
- Maintaining and optimizing mission-critical applications within the Advanced Design Tools (ADT) team, ensuring robust performance and reliability through systematic bug resolution and codebase improvements
- Collaborating cross-functionally to identify and resolve software issues across multiple projects, contributing to the continuous improvement of GE Aerospace's engineering tools and applications

Avionics Software Design Engineer Intern

Turkish Aerospace

June 2024 – July 2024

Ankara, TR

- Contributed to the TF-X (MMU) National Combat Aircraft project, developing advanced 2D and 3D radar simulation systems utilizing C# and .NET framework, with specialized implementation of Helix Toolkit for high-fidelity 3D graphics rendering
- Engineered sophisticated user interfaces using Windows Forms and WPF for fifth-generation fighter aircraft simulation, ensuring optimal real-time performance and accuracy in radar and vehicle interactions
- Conducted comprehensive testing and validation protocols aligned with aerospace industry standards, resulting in significant enhancements to Turkish Aerospace's radar simulation capabilities for the next-generation stealth fighter program

Undergraduate Research Assistant

Ozyegin University

May 2023 – Sep. 2023

Istanbul, TR

- Conducted an in-depth analysis of Linux I/O schedulers and extended this work using the Storage Performance Development Kit (SPDK), leading to a comprehensive understanding of I/O behavior and performance metrics
- Designed and executed performance tests by adjusting various hyperparameters, resulting in a 40% improvement in data throughput and reduced latency
- Worked under the supervision of Asst. Prof. Dr. Ismail Ari

PROJECTS

Rock-Paper-Scissors Vision Game | Python, OpenCV, TensorFlow, NumPy

May 2024 – June 2024

- Developed an advanced real-time computer vision system using convolutional neural networks (CNN) for an interactive Rock-Paper-Scissors game, enabling accurate hand gesture recognition and simultaneous two-player gameplay
- Engineered a robust image processing pipeline incorporating adaptive thresholding and histogram equalization techniques, ensuring reliable hand detection across diverse lighting conditions and backgrounds
- Implemented performance optimization techniques for real-time processing, achieving smooth gameplay while maintaining consistent frame rates through efficient model architecture and parallel processing

Low Latency Streaming | Python, JavaScript, FFmpeg, GPAC, dash.js

May 2024 – June 2024

- Developed a low latency streaming platform using FFmpeg, OBS, and DASH, achieving sub-2-second latency from capture to playback through source code modifications and optimized streaming parameters
- Implemented and tested advanced latency measurement techniques using QR codes embedded in video frames, ensuring precise and accurate performance assessments
- Conducted comprehensive performance optimization, resulting in significant improvements in real-time media delivery and enhancing the overall user experience

TECHNICAL SKILLS

Languages: Python, Java, C, C++, C#, SQL, JavaScript, HTML/CSS

Technologies: Git, Docker, WSL, MySQL, PostgreSQL

Data Science & ML Libraries: NumPy, pandas, Matplotlib, TensorFlow, Keras, sklearn, OpenCV