Turgay Bulut

+90-553-555-5027 | turgay.bulut@ozu.edu.tr | linkedin.com/in/turgaybulut | github.com/turgaybulut

Education

Ozyegin University Istanbul, TR
Bachelor of Science in Computer Science, 3.76/4.00 *Sep. 2020 – June 2025*

Experience

Software Engineer Intern August 2024 – Present
GE Aerospace *Istanbul, TR*

- Spearheading the development of advanced AI features for GE's flow simulation 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 June 2024 – July 2024
Turkish Aerospace *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 May 2023 – Sep. 2023
Ozyegin University *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