

Tarik ISILDAR

Felsennelkenanger 15, 80937, Munich, Germany

tarikisildar@gmail.com | +49 1746996280

[in](#) linkedin | [github](#) | [tarikisildar.dev](#)



SUMMARY

- Computer Graphics and Robotics specialist with M.Sc. from TUM, focused on real-time rendering and autonomous systems.
- 4+ years of industry experience applying cutting-edge technologies in automotive AI and game development, with expertise in both practical implementation and innovative problem-solving.

SKILLS

Languages: C++, Python, C#, JavaScript, Java

Technologies:

Graphics & Visualization: UE4/5, Unity, OpenGL, Three.js, Shader Programming

Backend & Tools: Docker, ROS, CMake, Bazel, Git, CI/CD

AI & Web: PyTorch, TensorFlow, Flask, FastAPI, React

EXPERIENCE

NVIDIA

Apr 2024 - Ongoing

Software Engineering Intern - Autonomous Vehicles

Munich, Germany

NVAssistant

- Designed and developed an AI-powered work assistant that integrates enterprise services through a distributed system, leveraging **LLMs** and multiple APIs to provide developers with daily summaries and real-time task synchronization
- Initiated and led the entire project lifecycle: researched, pitched, designed, and implemented within a 3-month timeframe while navigating organizational complexity
- Applied full-stack AI-Engineering practices using **Python/FastAPI, React TS, and PostgreSQL** with focus on production-quality code and scalable architecture

NDAS-Parking

- Developed autonomous vehicle parking components in **C++** through the entire software development lifecycle from requirements analysis to unit and integration testing
- Created and optimized **Bazel** build scripts to streamline development processes and improve build efficiency
- Contributed to an internal web-based visualization tool using **TypeScript** that enhanced data interpretation capabilities across the project

Aesir Interactive

Oct 2021 - Apr 2024

Working Student Programmer

Munich, Germany

- Contributed to the development of **Police Simulator: Patrol Officers**, recognized as one of the Top 5 Early Access Games of 2022 by Steam
- Implemented core gameplay systems, UI components, and performance optimizations using **Unreal Engine 4** and **C++** throughout the project lifecycle
- Collaborated effectively in an agile team of 30 members, participating in code reviews, technical design discussions, and sprint planning that drove successful project milestones

Apps Mobile Company

Feb 2020 - May 2021

Working Student Software Engineer

Ankara, Turkey

- Spearheaded the development of interactive playable ads utilizing WebGL technology, leveraging **Three.js** and **JavaScript** to create engaging user experiences, resulting in cost savings of \$10,000+ per game
- Led rapid prototyping of 10+ mobile games using **Unity** and **C#**, resulting in a diverse **portfolio** demonstrating expertise in game mechanics, optimization, and cross-platform development

EDUCATION

Master of Science - Informatics

Sep 2021 - Mar 2025

Technical University of Munich

Munich, Germany

Focuses: Computer Graphics, Machine Learning, Compilers, Computer Vision

GPA: 1.9/5.0 (German) \approx 3.1/4.0 (US)

Bachelor of Science - Computer Engineering

Sep 2017 - Aug 2021

Hacettepe University

Ankara, Turkey

GPA: 3.32/4.0

PROJECTS

🎓 Master's Thesis: Real-time Depth Completion for Teleoperation Interfaces

Apr 2024 - Jan 2025

ROS, OpenGL, C++, PyTorch

[\[Demo\]](#)

- Developed a novel sensor fusion system combining camera and LiDAR data to generate high-fidelity point clouds for autonomous vehicle teleoperation. Implemented custom neural network architecture for depth-completion using **PyTorch** and deployed optimized inference in **C++**.
- Engineered a high-performance teleoperation system achieving sub-300ms latency and >5 Hz frame rates through asynchronous processing and GPU optimization, integrating the CARLA simulator with the Autoware stack for comprehensive testing and evaluation

🚗 Real-time Visualization of Autonomous Driving Perception Data

Oct 2023 - Apr 2024

ROS, OpenGL, C++, Entity Component System

[\[Demo\]](#)

- Architected and implemented a custom visualization engine for TUM Institute of Automotive Technology, enabling real-time rendering of multi-sensor data from autonomous vehicles with intuitive **Dear ImGui** user interface
- Designed a scalable data processing pipeline for real-time sensor fusion, visualization of 3D point clouds, and interactive bounding box annotations
- Introduced modern software architecture based on Entity Component System (ECS) principles, significantly improving performance and enabling collaborative development across the research institute

🖥️ Simulation Based Autonomous Driving

2023

Python, PyTorch, Computer Vision

[\[Demo\]](#)

- Designed and trained an end-to-end neural network capable of autonomous navigation in complex urban environments using **PyTorch**, implementing custom convolutional architectures to process visual inputs and predict optimal driving actions
- Achieved robust performance across varying traffic densities, and road layouts through comprehensive training data augmentation.

📱 Exerciser

2021

Python, Flask, Flutter, MongoDB

[\[GitHub\]](#)

- Developed a cross-platform physical therapy application that uses computer vision to monitor and provide real-time feedback on exercise form, improving patient rehabilitation outcomes
- Implemented a scalable microservice architecture using **Python** with **Flask** and **FastAPI** backed by **MongoDB**, containerized with **Docker** for seamless deployment and scaling

📁 Additional Projects

Ongoing

Detailed showcases in the portfolio

[\[Portfolio\]](#)

HONORS AND AWARDS

OBSS CodeMaster Programming Competition

2020-2021

- Achieved 3rd place in 2020 and 1st place in 2021 in this university-wide algorithm and data structures competition, demonstrating strong problem-solving skills and competitive programming expertise. Awarded \$500 prize for top performance.

Peak Unithon Game Development Hackathon

2020

- Led team to 1st place among 21 competing teams, with judges highlighting exceptional code quality, innovative gameplay, and effective teamwork. Developed a complete game prototype in 48 hours using **Unity** and **C#**. Awarded all-expenses-paid trip to **QCon London Conference** as first prize.