# Abdullah Shamout

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## Education

**Istanbul Technical University** October 2021 – July 2025
*Bachelor of Computer engineering* *Istanbul, Turkey*

**Inzva X Google Developers ML Bootcamp** June 2023 – October 2023
*TensorFlow Developer Certificate* *Istanbul, Turkey*

## Experience

**Artificial Intelligence and Software Engineer** October 2024 – Present
*Cezeri Robotics / Baykar Technologies* *Istanbul, Turkey*

- Founded an internal product initiative for 3D scenery generation, leading the project from concept to development
- Migrate legacy products to modern frameworks, establishing professional and scalable environment setups
- Containerize applications and build robust CI/CD pipelines to streamline development and production workflows
- Improved a utilized Structure from Motion (SFM) algorithm speed by 14% through targeted optimizations
- Worked on 3D Scene Reconstruction using Volumetric and Radiance Field methods
- Utilized SOTA technologies such as Gaussian Splatting and NeRF based techniques
- Worked on utilizing LLMs as agentic mediators between sensory controls, actuators, and user panel
- Integrated agentic LLM models within report generation pipelines for live UAV flight communication with base
- Contribute to full-stack software development, including frontend, backend, networking, and low-level systems

**Research and Development Intern** August 2024 – September 2024
*Arçelik/Beko Coorprate* *Istanbul, Turkey*

- Created a dataset that relates the designs of TVs to their EMI signals using Anechoic Chambers
- Worked on creating an application to create the dataset automatically into a compact labeled form using tkinter
- Developed ML and DL models using Sklearn and TensorFlow for the prediction of EMI signals
- Dealt with multivariate series forecasting, dataset optimization, and big data analysis
- Dealt with data visualization and preprocessing using pandas and seaborn

**Undergraduate Student Researcher** November 2023 – July 2024
*Istanbul Technical University's SiMiT Lab* *Istanbul, Turkey*

- Developed several insect classification models using TensorFlow and PyTorch
- Worked with multi-label classification models that work on a taxonomic level
- Employed probabilistic prediction thresholds and utilized transfer learning
- Did an extensive literature review of state of the art employed technologies in the fields of object detection and classification

**Software Development Intern** July 2023 – September 2023
*RealSoft Advanced Applications* *Amman, Jordan*

- Developed a product supplier-retailer application with the mobile development team using flutter
- Developed some APIs for the supplier-retailer application using the .NET framework
- Executed structural database migrations in MySQL to improve schema efficiency and ensure data integrity.

## Notable Projects

**NeRF vs Gaussian Splatting** | *Python, PyTorch, Blender* June 2025

- Wrote the entire NeRF paper from scratch using python and pytorch
- Collected real live data using a drone
- Trained my NeRF model and the Gaussian Splatting paper model on my data
- Authored a comparative study analyzing the performance and trade-offs of both methods

**StyleGAN & Pixel2Style2Pixel Animations** | *StyleGAN3, Google Colab, OpenCV, Pixel2Style2Pixel* June 2025

- Generated high-resolution face images using pretrained StyleGAN3.
- Interpolated latent vectors to animate realistic face morphing between identities.

- Used pSp encoder to convert real celebrity photos into GAN latent vectors.
- Created image-to-image morph animations and visualized transitions in high quality.

**Osteoid Scoliosis Treatment** | *Jittor, PyTorch, Blender, Typescript, Python* October 2024 – April 2025
- Developed a human body Non-Watertight, Non-Manifold mesh segmentation model to extract the human torso
- Developed a scoliosis classification model that maps the torso to a suitable brace for treatment based on its degree
- Developed a web-based user interface that streamlines the entire process and visualizes the processed meshes

**Inferno** | *Gazebo, ROS, RViz, Python, OpenCV* December 2024
- Implemented A* pathfinding with B-spline smoothing for efficient robot navigation.
- Developed reactive obstacle avoidance with Pure Pursuit for smooth trajectory tracking.
- Designed frontier-based exploration and vantage point selection for full map coverage.
- Built HSV-based flag detection using OpenCV for object recognition and retrieval.
- Integrated all modules in a ROS/Gazebo simulation for end-to-end autonomous operation.

**Gofies** | *Express JS, Flask, Docker Compose, Nginx, Github Workflows, Prometheus, Grafana, Loki, Promtail, Google Cloud Platform(GCP), PyTorch, Hugging Face, Project Management, MongoDB* October 2024 – December 2024
- Managed a team that develops a system that manages multiple hospitals, clinics, doctors, lab staff, and patients
- Contributed to the development team in DevOps, Cloud, AI, and Microservice backend engineering roles
- Managed and distributed tasks for each subteam
- Developed a Medical Multi-Modal Expert System as a Microservice
- Setup environments for all modules of the system and containerized them
- Orchestrated all containers and integrated them with scripts and CI/CD pipelines
- Setup Cloud environment with all needed metrics/logs
- Deployed application with a load balancing webserver

*For a complete list of all projects and coursework, please visit my portfolio:* Portfolio
*Note some of the projects are not publicly displayed and can be shown in private sessions*

## Activities

**Türkiye Bursları Scholarship Winner** August 2021
- Full scholarship to study at Istanbul Technical University in Computer Engineering

**DIOPSIS ARISE challenge participant** March 2024
- Joined the DIOPSIS ARISE challenge as a participant representing Istanbul Technical University
- Created Detection and Multilevel classification models for insects in the challenge

**Dean's List of Honours**
- Awarded honours and high honours on the Dean's list for high finishing GPAs for multiple semesters

## Certificates

**Google TensorFlow Developer Certificate**

**Deep Learning Specialization(5 courses)**

**Machine Learning Specialization(3 courses)**

**DeepLearning.AI TensorFlow Developer(4 courses)**

## Technical Skills

**Languages**: Python, C/C++, C#, SQL, JavaScript, Typescript, Dart, HTML, CSS, Verilog, LaTeX, ARM Cortex M0+
**Frameworks**: TensorFlow, PyTorch, Jittor, Hugging face, ROS2, React, Vite, Tailwind, Flask, Flutter, .NET
**Developer Tools**: Git, Docker, Bash, ZSH, Nginx, GCP VS Code, Visual Studio, PyCharm, Eclipse, Vivado

## Languages

**English** : Native/bilingual
**Arabic** : Native/bilingual
**Turkish** : C2 level/Fluent