

Javad Ibrahimli

COMPUTER VISION AND AI RESEARCHER · ELECTRONICS AND COMMUNICATION ENGINEERING STUDENT

Istanbul, Turkey

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Personal Profile

Electronics and Communication Engineering student at Istanbul Technical University, specializing in autonomous systems, robotics, and Artificial Intelligence. Passionate about self-driving technologies, with hands-on experience in computer vision, sensor fusion, SLAM, and path planning. Experienced in Python, C++, ROS, and Autoware, with a deep understanding of AI-driven perception, motion planning, and ADAS development. Proficient in developing and deploying autonomous navigation systems, integrating LiDAR, RADAR, cameras, and GPS for real-world applications.

Education

Istanbul Technical University

Istanbul, Turkey

BSc in Electronics and Communication Engineering

Oct 2021 – Present

- **Key Courses:** Data Structures and Algorithms, Artificial Neural Networks, Machine Learning for Signal Processing, Digital Signal Processing, Data and Mobile Communication
- Active member of **ITU ZES Solar Car Team**, contributing to **autonomous navigation, perception systems, and real-world testing**.

Work Experience

DIVIT - Divit Digital Video and Image Technologies

Istanbul, Turkey

Computer Vision Engineer (Part-Time)

Jul 2024 – Present

- Developing real-time image stitching algorithms optimized for mobile devices, ensuring high efficiency and speed.
- Building and deploying computer vision models for mobile applications, including API request logic and integration.
- Working on agile projects for government and private sector clients, delivering iterative updates and feature enhancements.
- Optimizing AI models for real-time performance, improving inference speed and accuracy on mobile platforms.
- **Skills:** Python, TensorFlow, CNN, YOLO, Mobile AI Deployment, API Development, Agile Development, Image Stitching, Computer Vision

Leo Drive

Istanbul, Turkey

Autonomous Driving Software Engineer

Aug 2024 - Sep 2024

- Developed and deployed autonomous driving software systems, focusing on perception, planning, and control **using Autoware**.
- Integrated sensor fusion techniques to enhance real-time decision-making for autonomous vehicles.
- Collaborated with cross-functional teams to ensure the seamless integration of hardware and software in real-world conditions.
- Utilized **Autoware** to implement and test autonomous driving algorithms, improving system efficiency by 25%.
- **Skills:** Python, C++, ROS, LiDAR, Sensor Fusion, Computer Vision, Autonomous Navigation, **Autoware**

DIVIT - Divit Digital Video and Image Technologies

Istanbul, Turkey

Computer Vision Engineer

Jul 2024 - Aug 2024

- Developed and optimized AI models for real-time image recognition using CNN and YOLO.
- Deployed models for on-shelf availability (OSA) systems, enhancing inventory management with computer vision.
- Improved model accuracy by optimizing hyperparameters and implementing parallel processing techniques.
- **Skills:** Python, TensorFlow, CNN, YOLO, Computer Vision, AI Model Optimization

ITU ZES Solar Car Team

Istanbul, Turkey

Autonomous Systems Group Member

Jan 2023 - Feb 2024

- Designed and developed software modules for autonomous driving systems, including perception, planning, and control **using Autoware**.
- Integrated and calibrated sensors such as LiDAR, cameras, and GPS for accurate data acquisition.
- Implemented autonomous driving functionalities with **Autoware**, enhancing vehicle performance in dynamic environments.
- Conducted testing and validation in real-world scenarios, improving system performance through iterative optimization.
- **Skills:** Python, C++, ROS, Sensor Integration, Object Detection, SLAM, Path Planning, Autoware

Upwork

Online

Freelance Programmer

Mar 2022 - Nov 2022

- Completed client software development tasks, focusing on data automation and optimization.
- Boosted model accuracy for traffic sign detection by 30% through shell scripting and Linux tools.
- **Skills:** Python, Shell Scripting, Linux, Data Automation, Computer Vision

Istanbul Technical University

Istanbul, Turkey

Student Assistant

Dec 2022 – Mar 2023

- Managed and updated course materials, ensuring students had access to the latest resources.
- Developed and integrated coding assignments into in-class files and GitHub repositories for hands-on learning.
- Maintained and refined lecture slides to align with industry advancements and academic standards.
- Provided technical support, including equipment setup, troubleshooting, and ensuring seamless course operations.
- **Skills:** Course Management, GitHub, Troubleshooting, Technical Support, Documentation

Projects

2024	GPS Publisher for ROS 2 Humble , Developed a GPS publisher node for ROS 2, enabling GPS data simulation and integration into autonomous navigation pipelines.	Project Link
2024	Self-Driving Cars Final Project , Designed and implemented a self-driving system using sensor fusion and vehicle dynamics, improving object detection and path planning.	Project Link
2024	Heart Attack Prediction using Machine Learning , Developed ML models for heart attack risk prediction, leveraging exploratory data analysis (EDA) and clustering techniques.	Project Link
2024	Motion Planning Simulation in CARLA , Implemented motion planning algorithms, including behavior-based planning, to navigate dynamic traffic environments.	Project Link
2024	Urban Noise Classification using Machine Learning , Applied CNN, DNN, and LSTM architectures to classify urban noise patterns, improving environmental sound analysis.	Project Link
2024	Flower Recognition Using CNN , Developed a deep learning-based image classification system with data augmentation techniques to improve accuracy.	Project Link
2023	YOLOv5 Model for Traffic Sign Detection , Trained a YOLOv5 X-Large model on 15,000+ images, achieving high accuracy in real-time traffic sign recognition for Teknofest.	

More projects and details available on my [Website](#)

Skills

Programming Languages	Python (NumPy, Pandas, OpenCV, PyTorch, TensorFlow), C++, $\LaTeX$
Frameworks & Libraries	ROS, Autoware, OpenCV, TensorFlow, PyTorch, Lanelet2
Development Tools	Linux/Ubuntu, Git/GitHub, Docker, Gazebo, CARLA, VSCode, MATLAB
Core Competencies	Computer Vision, Sensor Fusion, SLAM, Path Planning, Machine Learning, Deep Learning
Hardware & Sensors	LiDAR, RADAR, Cameras, GPS, IMU, Embedded Systems
Soft Skills	Critical Thinking, Problem-Solving, Teamwork, Technical Documentation, Adaptability, Working Under Pressure

Achievements and Test Scores

2023	Teknofest Robotaxi - Full Scale Autonomous Vehicle Competition Finalist , One of 23 teams selected from 1500+ applications, showcasing expertise in autonomous navigation and AI-driven perception	Teknofest, Turkey
2021	Scholastic Aptitude Test (SAT) , Scored 1410/1600, demonstrating strong analytical and problem-solving skills	Azerbaijan
2021	Turkish Proficiency Exam (C1 Level) , Certified advanced proficiency in Turkish	Turkey
2020	International English Language Testing System (IELTS) , Achieved 8.0/9.0, demonstrating professional-level English proficiency	Azerbaijan
2019	Winner - Azerbaijan Student Informatics Olympics , Recognized for outstanding problem-solving and programming skills	Azerbaijan
2016	Finalist - 1st Logic Olympiad (Lotfi Zadeh) , Advanced to the final stage of the prestigious national competition	Azerbaijan

Interests

Googling	I excel at efficiently searching and finding information, enhancing my learning and problem-solving abilities.
Chess	Playing chess helps me improve strategic thinking and decision-making skills.
Judo	Practicing judo keeps me physically fit and teaches discipline and focus.
Music	Listening to music relaxes and motivates me during work and leisure.

Languages

English	Professional Proficiency (IELTS 8.0)
Turkish	Native Proficiency (C1 – Turkish Proficiency Exam)
Azerbaijani	Native Proficiency
Russian	Intermediate Proficiency

References available upon request.