Oguzhan KIRIK

Berlin, Germany
+49 (1578) 0849089
kirikoguzhan@gmail.com
Personal Website
GitHub Profile
LinkedIn Profile

Robotics and AI engineer with experience in automation, machine vision, and intelligent robotic systems. Has contributed to the development and deployment of AI-driven automation projects, working within multidisciplinary teams. Experienced in coordinating technical activities across robotics, perception, and control, with an interest in bridging technical development and project organization.

Work Experience

Nov2022 - Jul2025 (Full-time)

Technical University Berlin, Department of Automation Technologies, Berlin, DE, (LINK)
Research Associate

•Trained VLA model on the dataset **language table** for **UR5 robotic manipulation tasks**, enabling efficient robot interaction, scalability and validated its performance through real-world deployment.
•Trained a **DRL** model for path planning and obstacle avoidance in **PyBullet**, achieving more efficient motions in dynamic environments than traditional methods (RRT*, BiRRT) and successfully deployed in ROS. **Github Link**
•Built and deployed **ML** models (CNNs, Autoencoders) for **predictive maintenance** and **process optimization**, improving system uptime and operational efficiency.
•Integrated industrial **hardware** systems with **Apache Kafka**, enabling real-time data streaming and analytics for smarter production insights.
•Developed an interactive **GUI** for process visualization and AI model training, enabling **real-time monitoring** and user-friendly experimentation.
•Led knowledge transfer and mentoring, supervising thesis students and conducting workshops on **AI in manufacturing**, fostering innovation and cross-functional collaboration.

Apr2021 - Oct2022 (Full-Time)

Relimetrics, Inc., Berlin, DE, (LINK)
Robotics Vision Engineer

•Developed and implemented advanced **calibration, point cloud registration, and path planning algorithms** in ROS, enhancing robotic precision, motion accuracy, and system reliability.
•Processed and analyzed 2D/3D sensor data, enabling automated **hole segmentation** and **visual inspection** and reducing manual quality control time.
•Contributed to UX/UI design improvements and the development of the state machine architecture.
•Coordinated **project planning**, regular **demonstrations**, **client meetings and documentation** using Jira and Confluence, ensuring efficient workflow management and on-time project delivery.

Mar2020 -Dec2020 (Full-Time)

Institute of Measurement and Control Systems, KIT, Karlsruhe, DE, (LINK)
Master Thesis + Research Assistant

•Developed an algorithm for **real-time integration of HD-Maps into autonomous driving scenarios**, enabling automatic object annotation for **images** for semantic segmentation. Addressed occlusion by fusing **stereo vision and LiDAR** data. Trained and evaluated neural networks on a **labeled dataset** using **TensorFlow** to assess the accuracy and robustness of the **annotation tool**.

Jan2020 - Mar2021 (Part-Time)

Center for Media and Art(ZKM), Karlsruhe, DE, (LINK)
Working Student

•Contributed to development of **NLP-based** chatbot in RASA to automate visitor interactions and provide real-time information on exhibitions and artists, enhancing user engagement and support efficiency.
•Accessed and managed database content using MySQL for question-answering applications.

Jun2019 - Nov2019 (Full-Time)

Invite Research Center, Cologne, DE, (LINK)
Robotics Intern

•Programmed industrial robots using teach pendants for UR10 and Sunrise Workbench for KUKA iiwa, conducting feasibility tests for dosing applications under real-world conditions.
•Designed and modeled robotic cells in AutoCAD and integrated them into RViz for simulation, validation, and layout optimization.
•Implemented a bin detection algorithm in ROS, enabling automated object localization.

Nov2018 - Apr2019 (Part-Time)

Institute for Material Handling and Logistics, KIT, Karlsruhe, DE, (LINK)
Working Student

•Contributed to the mechanical design of the cargo compartmentfor an autonomous delivery vehicle in the UNICARagil Project. (LINK)

Soft Skills

PM	Managed and documented projects.
Teamwork	Worked in multi-disciplinary teams.
Leadership	Supervised thesis students and interns.
Comms	Presentations at Conferences/Client meetings.
Freelance	Provided technical consultation for exhibitions

Technical Skills

Programming	C/C++, Python, MATLAB.
Sensors	RGB/RGB-D cameras, LiDAR, Radar, IMU.
Robotics	ROS/ROS2, Gazebo, Webots, MuJoCo, RViz.
AI/ML	TensorFlow, PyTorch, PyBullet, Scikit-learn.
Dev	Linux, Docker, CI/CD, Github, Jira.
Data	Apache Kafka, MQTT, UDP, TCP/IP.
Libraries	PCL, OpenCV, MoveIt2, Nav2, NumPy, Eigen, Pandas.

Education

2017 – 2020	**M.Sc. in Mechanical Engineering** Major: Robotics and Mechatronics Karlsruhe Institute of Technology
2016 – 2017	**German Course** DSH-2 University of Wuppertal, Wuppertal
2010 – 2015	**B.Sc. in Mechanical Engineering** Yildiz Technical University

Language Skills

English	Full professional proficiency
German	Full professional proficiency
Turkish	Native proficiency
Spanish	Basic communication skills

Personal Projects

•Vision-Language Manipulation (PyBullet, SmolVLA): Built a PyBullet environment to collect training data in LeRobot format, fine-tuned and evaluated the SmolVLA model on the generated data. **Github Link**
•Sensor Fusion with UKF (Lidar, Radar): Integrated multi-sensor data for object tracking. **Github Link**
•Fixed-Wing Aircraft Controller: Simulated control algorithms for fixed-wing UAV dynamics. **Github Link**
•Robotics Software: Implemented localization, SLAM, path planning, and navigation algorithms. **Github Link**