Gholibjon Qasobov

Automation and Robotics Engineer

qasobovgholib@gmail.com | +7 (707) 350 61 34 | Portfolio | Gholibjon Qasobov | gholibqasobov

Education

Kazakh-British Technical University, BS in Engineering and Technology — Sept 2022 – May 2026

- GPA: 3.33/4.0 (Transcript)
- **Coursework:** Foundations of Electrical Engineering, Theory of Linear and Non-linear Control Systems, Autonomous Mobile Robots, Industrial Robot Operations, Introduction to Machine Learning, PLC Programming, Automation Components and Devices, Robotics in Manufacturing

Experience

Robotics Teacher Assistant, Kazakh-British Technical University — January 2024 - Present

- Developed an automated maintenance inspection system for multi-floor residential and industrial complexes, using a mobile-legged robot capable of navigating through elevators.
- Built an AprilTag-based (QR code) pick-and-place system using a DoBot robotic arm.
- Created a master-slave robotic arm system using OpenManipulator-X robotic arms.

Robotics Software Engineer, Alma Valley - Borealis Laboratory — November 2024 – Present

- Recorded Raspberry Pi tutorials for Uni-X platform to support educational initiatives.
- Designed and implemented an environmentally focused drone for trash collection using Nvidia Jetson Orin NX and RealSense D435i 3d camera
- Developed a Unitree Go2 robot dog voice control in Kazakh language using an offline LLM and ROS2 Humble for local language support

Publications

Development of a Mobile Robot Platform For Smart Warehouse Management System (Publication) — June 2024

Herald of Kazakh-British Technical University

This paper discusses the design and implementation of a mobile robot platform for enhancing smart warehouse management systems, focusing on navigation, automation, and scalability.

Projects

Unitree Go2 autonomous navigation and voice control in Kazakh Language

- Developed a Quadruped Robot voice-control and autonomous navigation in ROS2 Humble with obstacle avoidance and front camera access.
- Tools Used: C++, Python, ROS2 Humble, Fusion-360

KUKA PowerBank Assembly and Simulation in RoboDK

- Collaborated on designing and simulating a custom end-effector for a KUKA manipulator using RoboDK.
- Tools Used: RoboDK, KUKA, Fusion-360

DoBot Pick and Place Using AprilTag (QR code) Technology in ROS

- Designed and implemented an AprilTag-based (QR code) pick-and-place system using a DoBot Magician manipulator.
- Tools Used: Python, ROS1 Noetic, Fusion-360

Tic-Tac-Toe Playing Robot Against Human

- Designed and implemented an interactive Tic-Tac-Toe-playing robot using the DoBot Magician manipulator, YOLOv8 object detection, and the minimax algorithm.

- Tools Used: Python, ROS2 Humble, Fusion-360

Semi-Autonomous Water Drone for Trash Collection with Computer Vision

- Collablrated in developing of a semi-autonomous water drone for trash collection
- Tools Used: Python, C++, YOLOv11, Nvidia Jetson Orin Nx, RealSense d435i camera, Fusion-360

Activities and Achievements

KazEnergy Eco-Shell Finalist: Recognized for the innovative design and implementation of a Semi-Autonomous Water Drone for trash collection.

Electrical Engineering Olympiad Finalist: Demonstrated excellence in problem-solving and electrical engineering concepts at olympiad held by Satpayev University.

Judge in Robo-Football competition: Served as a judge in Robo-Football competition in ITFest 2024.

Skills and Interests

Programming Languages: C++, Python, MATLAB, JavaScript, IEC 61131-3 (ST, LD)

Robotics: ROS1 Noetic, ROS2 Humble, RoboDK, Nav2, Gazebo, Computer Vision, Machine Learning

Electronics and Hardware Skills: Raspberry Pi 4/5, ESP32, Nvidia Jetson, OpenCR, Modicon M340

Languages: Tajik/Persian (Native), Russian (Fluent), English (Fluent, IELTS 7.0/9.0), Kazakh (Elementary)

Portfolio

Feel free to check my specific Portfolio entry for more details!