

# RASSUL ZEINULLA

## AUTOMATION AND ROBOTICS ENGINEER

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### PROJECTS EXPERIENCE

#### Turtlebot3 Point to Point Navigation | Mobile Robot

The project implements Turtlebot3 movement to predefined points on a map using ROS and MoveBase. The key feature is reading goals from a file and converting them into robot positions and orientations.

#### Inverted Pendulum on Moving Platform | Control Systems

Developed a self-balancing inverted pendulum mounted on a mobile platform using an ESP32 microcontroller. Implemented a PID controller with real-time feedback from IMU6050, processed through a complementary filter and Simulink diagram.

#### PLC-Based Industrial Automation Training Stand | PLC engineering

Built an automation stand with a Siemens S7-300 PLC, HMI in XP Builder, inductive sensors, and relays controlling a conveyor motor. (LD) logic in TIA Portal for start/stop, direction, and emergency functions, and integrated real-time HMI visualization for system monitoring and control.

### WORK & ACADEMIC EXPERIENCE

#### HYUNDAI TRANS KAZAKSTAN Internship

Jun 2025 - Jul 2025

Developed PLC (Siemens S7-300 in TIA Portal) and HMI interface in XP Builder, integrated inductive sensors, implemented start/stop, direction, and emergency stop logic, and assembled a complete control panel with relays, timers, and protection devices for a conveyor automation system.

#### Assistant of KBTU Robotics Laboratory

Sep 2024 - May 2025

Implementing Computer Vision models and fine-tuning them

Programming on Raspberry PI and microcontrollers

#### ITFest 2024 – Mentor & Assistant Referee (Robotics Sector)

December 2024

Mentored teams during robotics track, improving robot designs and performance. Served as referee for robotics soccer competition. Gained experience in mentoring, technical advising, and event coordination in a tech-focused environment.

### SKILLS

#### Software

Python/C++/ ROS2

Overleaf/LATEX

Linux (ubuntu)

Computer Vision

IEC 61131-3

TIA Portal, XP builder

#### Hardware

Raspberry pi 4/5, Nvidia Orin nano

ATmega 328P, ESP32

Modicon M340, SIMATIC s7-1200s,

SIMATIC s7-300

RoArm-M2-S (WS)

UGV Rover (WS)

REALSENSE D435I

### EDUCATION

#### Bachelor Automation and Control Engineering

Sep 2022 - Sep 2026

Kazakh-British Technical University

- Specialty: "Automation and Control"
- Language of education: English

### ADDITIONAL INFORMATION

- **Languages:** English, Russian, Kazakh
- **Certifications:** HUAWEI Overview of AI (Kazakh)