

ALMAT ABDIMALIK

AUTOMATION AND ROBOTICS ENGINEER

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Skills and Interests

Programming Languages : C++, Python, MATLAB, IEC 61131-3 (LAD, GRAPH, FBD, SCL)

Hardware Skills : Single board computers, Modicon M340/M241, S7-1200, S7-1500 series PLCs

Software skills : TIA Portal, Simit SP, Ecostructure Control Expert, Ecostructure Machine Expert

Modeling & Design : Autodesk Fusion 360, AutoCAD, Solidworks, 3D Printing

Work & Academic experience

Sep 2025 - Present

Engineer of Siemens Laboratory

- Responsible for the Siemens automation laboratory, including setup, configuration and maintenance of SIMATIC S7-1200/S7-1500 controllers, ET 200SP I/O stations, industrial networks and PCs with Siemens software.
- Assist during Siemens-based practical lessons, helping students with PLC programming in TIA Portal and process simulation in SIMIT.

Siemens Laboratory Internship

Jul 2025 - Aug 2025

PLC development in TIA Portal with SIMIT-based simulation and real-hardware testing on SIMATIC S7-1200/1500 controllers, including MATLAB-PLC communication.

Assistant of KBTU Robotics Laboratory

Sep 2024 - May 2025

Programming on Raspberry PI and microcontrollers.

Created technical schematics in AutoCAD. Design 3D models in Fusion 360 for 3D printing.

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.

Projects

Inverted Pendulum on Moving Platform | Control Systems

Tech Stack: ESP32, C++, PID Control, IMU6050, Fusion 360, Matlab

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.

Mechanical parts designed in Fusion 360.

Self-Balancing Twin-Propeller Inverted Pendulum | Control Systems

Tech Stack: ESP32, C++, PID control, IMU, Brushless DC motors, Fusion 360, Matlab

Built a self-balancing inverted pendulum driven by two counter-rotating propeller-style motors, inspired by drone stabilization systems. Implemented a PID controller on the MCU using IMU6050 feedback to regulate thrust and keep the pendulum upright. Mechanical structure and motor mounts designed in Fusion 360.

UGV Rover Navigation (Waveshare) | Mobile Robot

Tech Stack: ROS2, Python, Waveshare UGV rover, ROS Navigation Stack

Implemented point-to-point navigation on a Waveshare UGV rover using ROS2. Waypoints are read from a file and converted into robot goals on a mapped environment, enabling autonomous movement between predefined positions.

Methodological Manuals

Develop 2 methodological manuals: "Methodological Instructions for Work 'Automated Control Systems Based on SIMATIC S7-1200'" and "Methodological Instructions for Work on Siemens 'Simulation of Automated Systems Based on SIMIT'".

Education

Bachelor Automation and Control Engineering

Sep 2022 - Sep 2026

Kazakh-British Technical University

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