Yelyubay Aruna

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Education

Kazakh-British University Almaty, Kazakhstan
Bachelor in Robotics and Mechatronics *2023 - 2027*

Relevant Coursework: Robotics in Manufacturing, Automation Components and Devices, Foundations of Electrical Engineering, Robotic Vision, Internet of Things (IoT), Kinematics and Dynamics, Solidworks

Engineering Projects

Autonomous Drone Navigation System 2025 – Present
F450, Pixhawk, Raspberry Pi 4, Intel RealSense, Python, FastAPI, MAVLink, PID Control, 3D Printing

- Implemented MAVLink communication with Pixhawk and PID-based stabilization for precise altitude and heading control.
- Built a FastAPI backend for real-time telemetry, mission routing, and remote command interface.
- Designed and 3D-printed custom mounting hardware for camera and onboard electronics.

Autonomous Firefighting UGV Rover Robot Sep. 2024 – Dec. 2024
Raspberry Pi 4, YOLOv8, OpenCV, WebSockets, 3D Printing

- Developed real-time fire detection using a custom YOLO vision model.
- Implemented WebSockets for live monitoring and automatic voice alert notifications.
- Integrated Pi Camera, ultrasonic sensors, and motor control for autonomous navigation.
- Designed and 3D-printed a fire-suppression turret mechanism.

Obstacle Avoiding & Line Following Robot Feb. 2024 – Apr. 2024
Arduino, IR Sensors, Motor Driver, C/C++

- Built an autonomous vehicle with path tracking and obstacle avoidance.
- Assembled and soldered full circuit; programmed control logic in Arduino C/C++.

Boeing 777 Full Aircraft CAD Model Jan. 2024 – Mar. 2024
SolidWorks, Assembly Modeling, Rendering

- Designed a complete Boeing 777 model including fuselage, wings, landing gear, and engines.
- Responsible for wing geometry, assembly integration, and final rendering.

Extra-Curricular Activities

Work and Travel Summer Program May 2025 – Sep. 2025
Customer service experience in Destin, Florida, enhancing communication, teamwork, and problem-solving skills in a fast-paced environment.

University Mentorship: Guided and mentored 21 first-year engineering students throughout the academic year, supporting their adaptation to coursework, project development, and academic planning.

Skills

Programming: Python, C/C++, MATLAB | **AI & Computer Vision:** PyTorch, OpenCV | **Simulation & Robotics:** Isaac Sim, Raspberry Pi, Arduino | **CAD & Design:** SolidWorks, Fusion 360 | **Tools:** Git, LaTeX (Overleaf), Microsoft Office, Canva