ERDEM ERBABA

PORTFOLIO

MECHATRONIC ENGINEER

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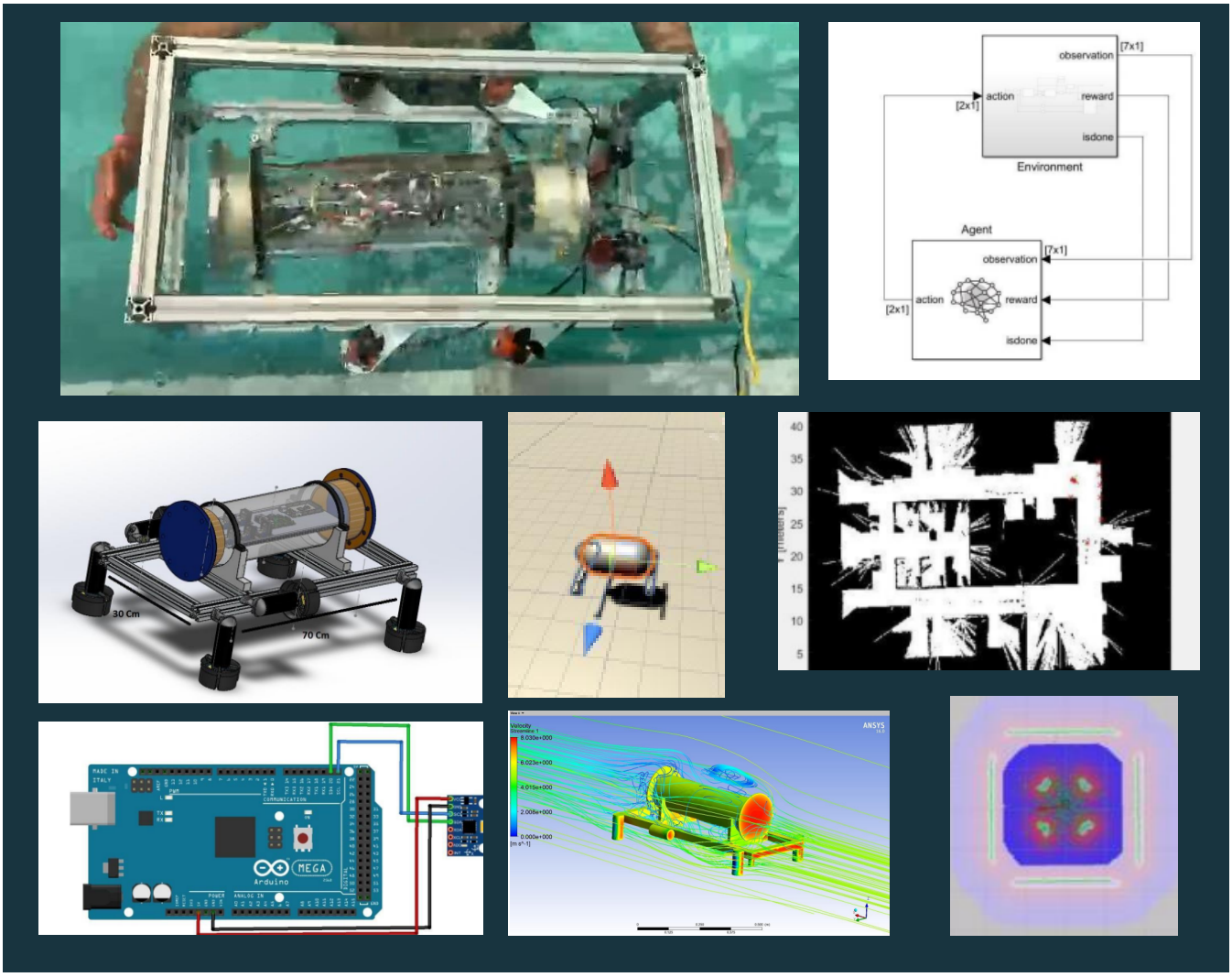
MECHATRONIC ENGINEER

AUTONOMOUS UNDERWATER VEHICLE



Competencies

python, image processing, ansys, matlab, ros, fritzing, solidworks

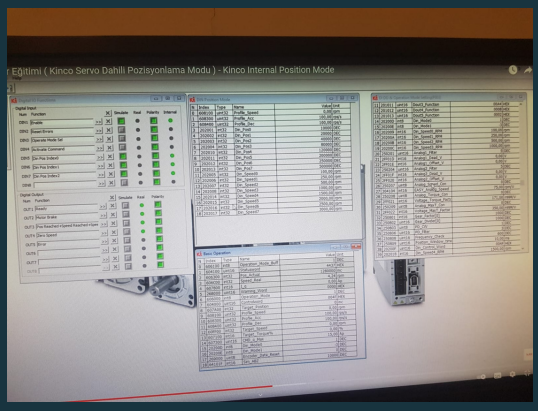
Abstract

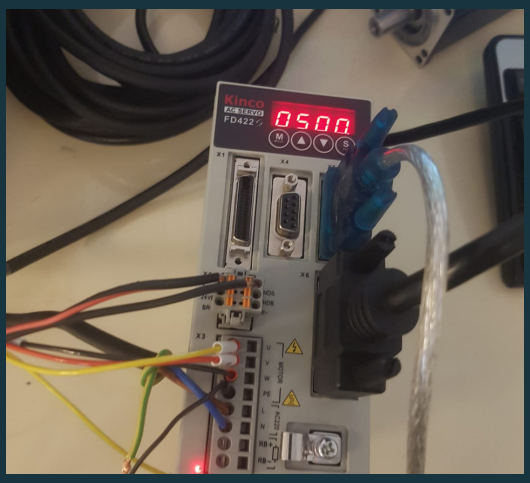
AUV is a robot that travels underwater without requiring input from an operator. UUV's missions: Intelligence, surveillance, and reconnaissance, Mine countermeasures, Anti-submarine warfare, Inspection/identification, Oceanography, Communication/navigation network nodes, Payload delivery, Information operations, Time-critical strikes

Methodology

Since radio waves do not propagate well under water, many AUV's incorporate Acoustic Modems to enable remote command and control.AUVs carry sensors to navigate autonomously and map features of the ocean. Typical sensors include compasses, depth sensors, sidescan and other sonars

ROBOTIC ARM





Competencies

python, servo motor softwares, matlab, simulink, solidworks, RTU, PLC

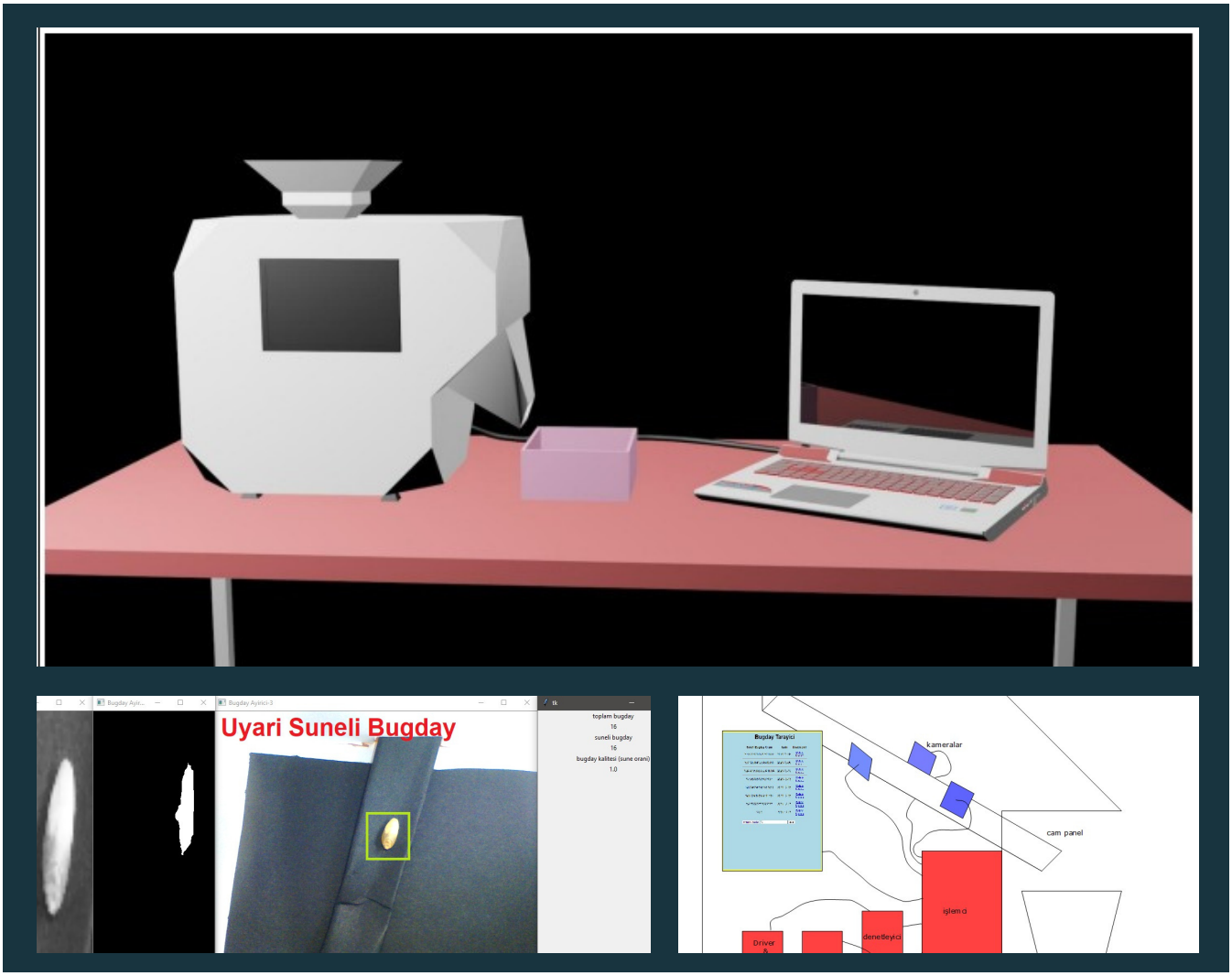
Abstract

The links of such a manipulator are connected by joints allowing either rotational motion (such as in an articulated robot) or translational (linear) displacement.[1][2] The links of the manipulator can be considered to form a kinematic chain.

Methodology

Cobot applications contrast with traditional industrial robot applications in which robots are isolated from human contact. Cobot safety may rely on lightweight construction materials, rounded edges, and the inherent limitation of speed and force, or on sensors and software that ensures safe behavior

HARVEST DAMAGE DETECTION SYSTEM



Competencies

python, image processing, computer vision, machine learning, artificial intelligence,solidworks, mother board

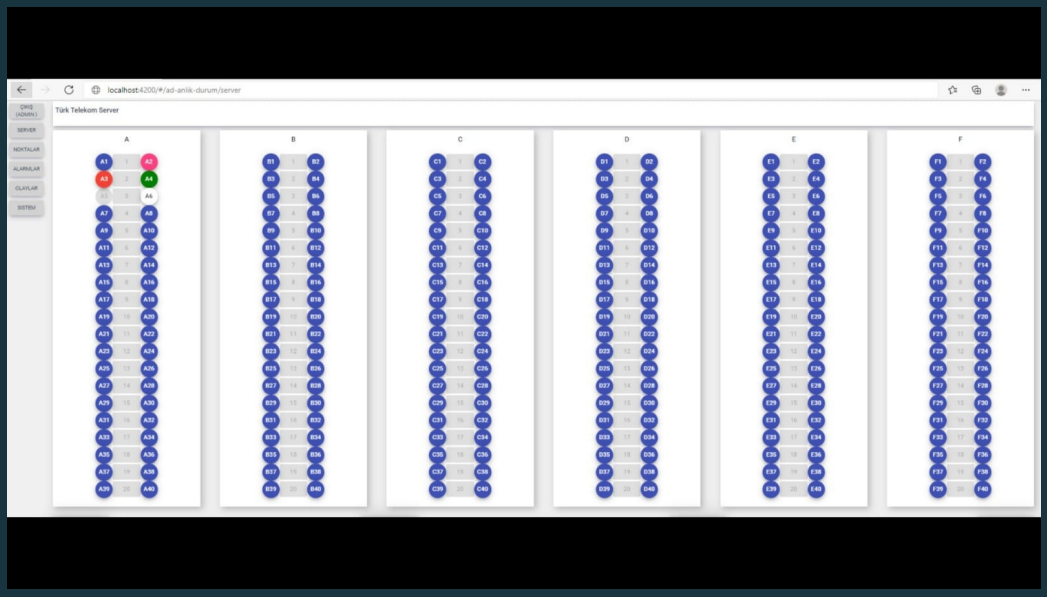
Abstract

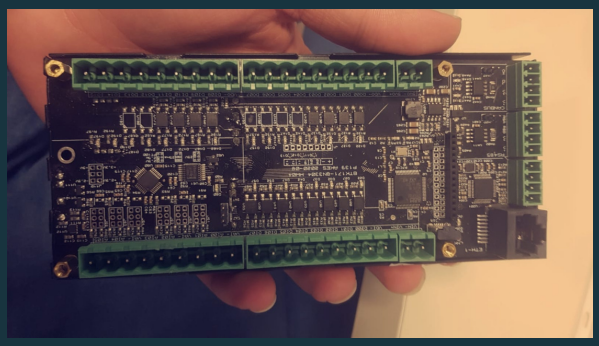
manpower yarine machine has been developed to determine the ratio of sun in wheat

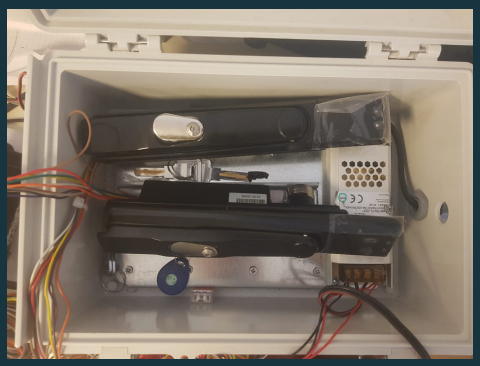
Methodology

3 image analysis of wheat from different angles determines whether it is circumcised by image processing technique

COLLABORATIVE MASTER SLAVE LOCK SYSTEM







Competencies

modbus, rs485, rtu, fritzing, logic circuits, angular, solidworks, html

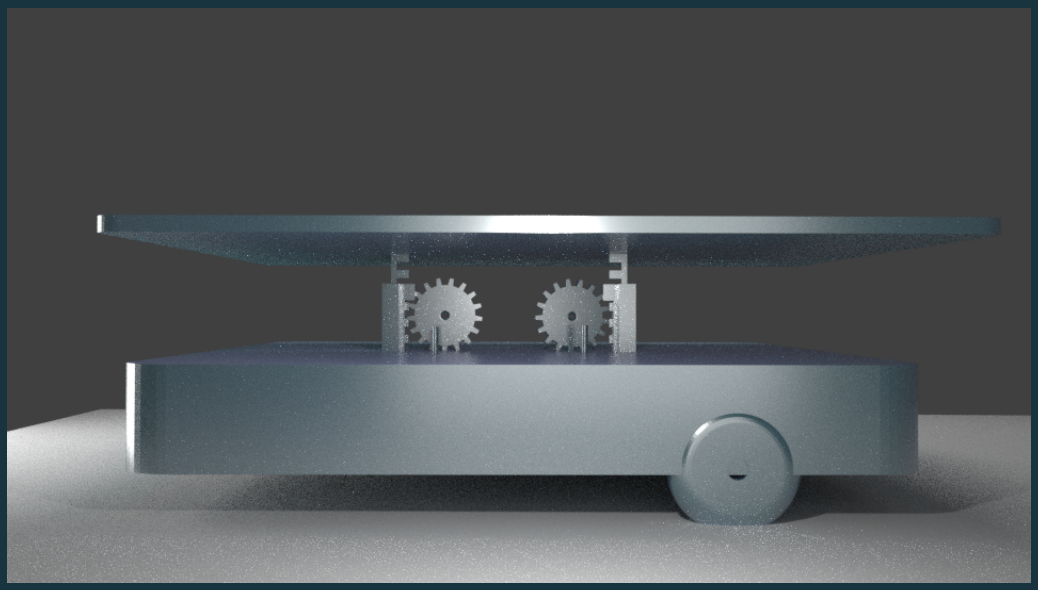
Abstract

it is a project related to the communication and control of intelligent locks found in a large number

Methodology

the project was developed with master slave technology and belongs to the hardware software and mechanical and electronic design project team behind it

DEPOBOT



Competencies

python, solidworks, fusion, ros, gazebo, lidar,electronics, c, c++, unity

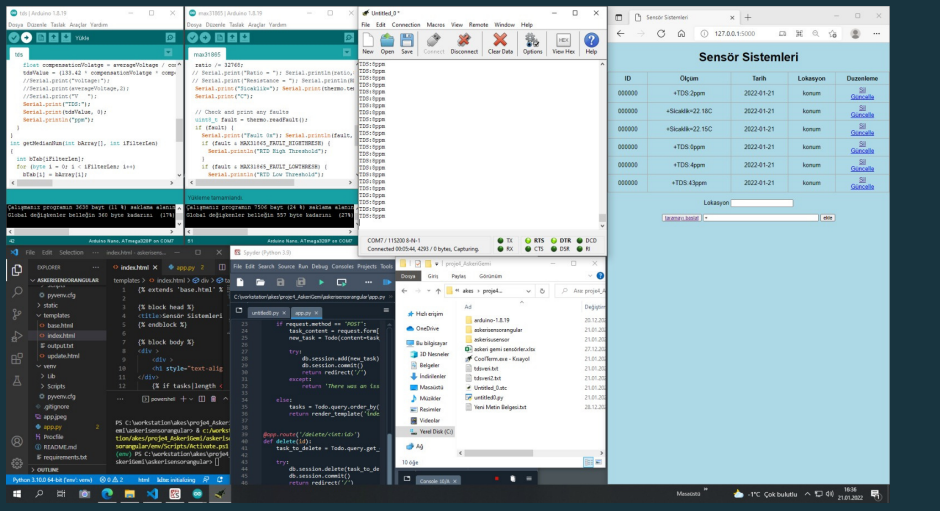
Abstract

DesignX project competition winner initiative, autonomous forklift proposal project for warehouses

Methodology

image processing has been developed using terms such as artificial intelligence, computer vision, machine learning

UNDERWATER MODBUS MEASUREMENT SYSTEM



Competencies

C, angular, python, flask, arduino, modbus, rs485, html, typescript, css

Abstract

this sensor system, which will be used in the areas where analysis and measurement should be performed from 100 meters below the water, provides information about the characteristic features of the water

Methodology

modbus rs485 communication protocol was used to communicate 100 meters underwater