TULIP

A COMPANION FOR EXPERIENTIAL LEARNING

CROBOT TECHNOLOGIES
PRIVATE LIMITED

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EMBRACE THE FUTURE OF LEARNING
Small in Size, Giant in Performance

Tulip, the compact educational robot, is designed to ignite a passion for robotics and coding in students of all ages. With its user-friendly design and powerful capabilities, Tulip transforms the learning experience, making it engaging, hands-on, and accessible.

BENEFITS

★ EXPERIENCE THE POWER OF ADVANCED ROBOTICS IN A COMPACT FORM

★ UNLOCKING THE WORLD OF ROBOTICS AND CODING FOR STUDENTS

★ INCREMENTAL INNOVATION THROUGH EDUCATION AND TRAINING

★ WE'RE RESHAPING THE WAY OF STUDENTS LEARN ROBOTICS AND CODING, FROM SCHOOL TO COLLEGE

★ A PORTABLE WONDER DESIGNED TO BRING THE EXCITEMENT OF EXPERIMENTS AND CODING TO SCHOOLS AND HOMES
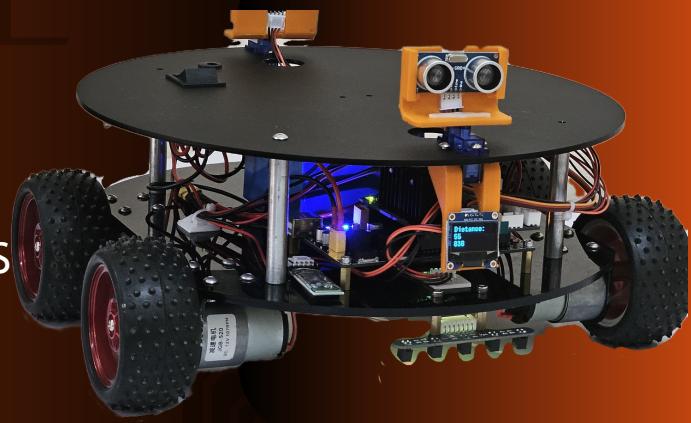
Our mission is to empower every student to create diverse applications within the field of robotics. Tulip extends learning beyond the limitations of traditional classrooms, making it accessible to all.

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TECHNICAL SPECIFICATIONS

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MOTOR S	DC Geared motors with drivers, servo motor
HAT BOARD	Customized developer board (ROMOS) for interfacing with multiple I/O's
WHEEL	4 x 100 mm dia wheels
BATTERY	11.1V with charger
BATTERY LIFE	One complete charge 5 Hrs
WEIGHT	3 kgs (Approx)
DIMENSIONS	Dia 30 cm, Height 15 cm (May vary based on models
DISPLAY	OLED 128 x 64 (0.99 INCH)
SENSORS	Ultrasonic (HC-SR04), IR ,IMU (MPU6050)
BLUETOOTH	HC-05
SYSTEM★	Raspberry PI 4 Model B/ NVIDIA Jetson Orin★
SENSORS★	LiDAR 6 m radius ★
CAMERA★	Depth camera / Similar★
SOFTWARE★	Preloaded Ubuntu 22.04 - ROS 2 (Humble Hawksbill)★
STORAGE★	4/8GB RAM WITH 64GB SD CARD //8GB/16GB★ RAM WITH 250 GB SSD

NOTE: " ★ " OPTIONAL OR USER PREFERENCE
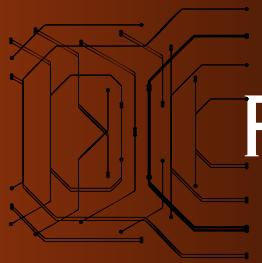
ROMOS
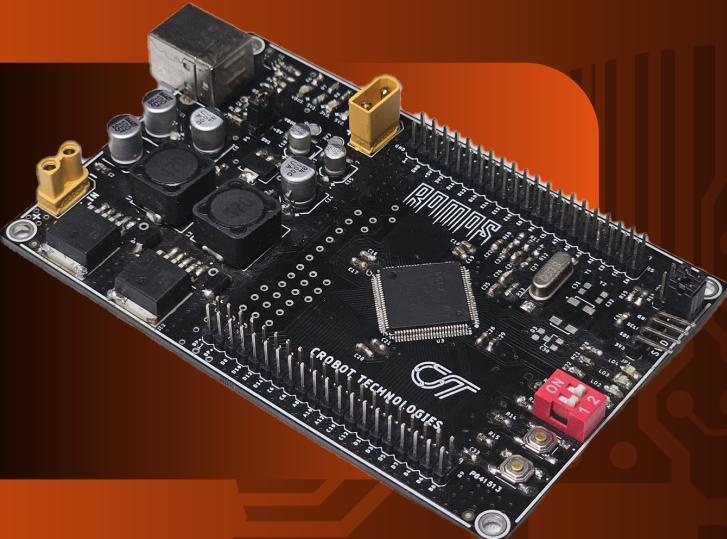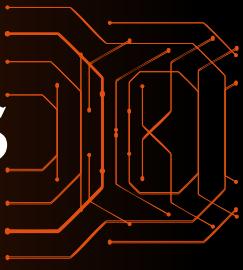
Robot on Metal Oxide Semiconductor (ROMOS), a developer module based on the STM32 microcontroller, empowers both robot enthusiasts and novices to dive into robot building with ease, minimizing wire clutter.

Its industrial-grade design facilitates direct engagement in robotics projects. ROMOS is ingeniously crafted to accommodate the creation of personalized interface modules or HATs using the onboard power modules and GPIO expander.

Moreover, CROBOT extends its offerings with a specialized motor driver HAT, leveraging the L298N technology. This driver HAT facilitates seamless connection of up to four individual DC motors, each capable of handling a maximum current rating of 2 A, catering to a diverse range of robotic applications.

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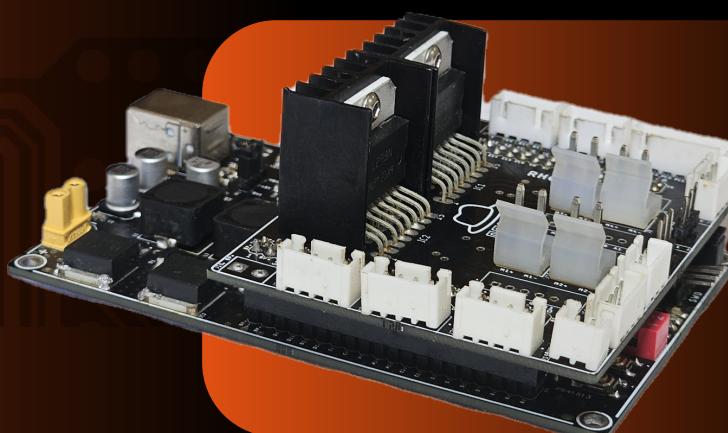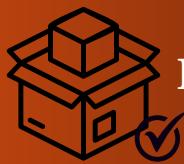
LIST OF COMPONENTS PRESENT IN THE KIT
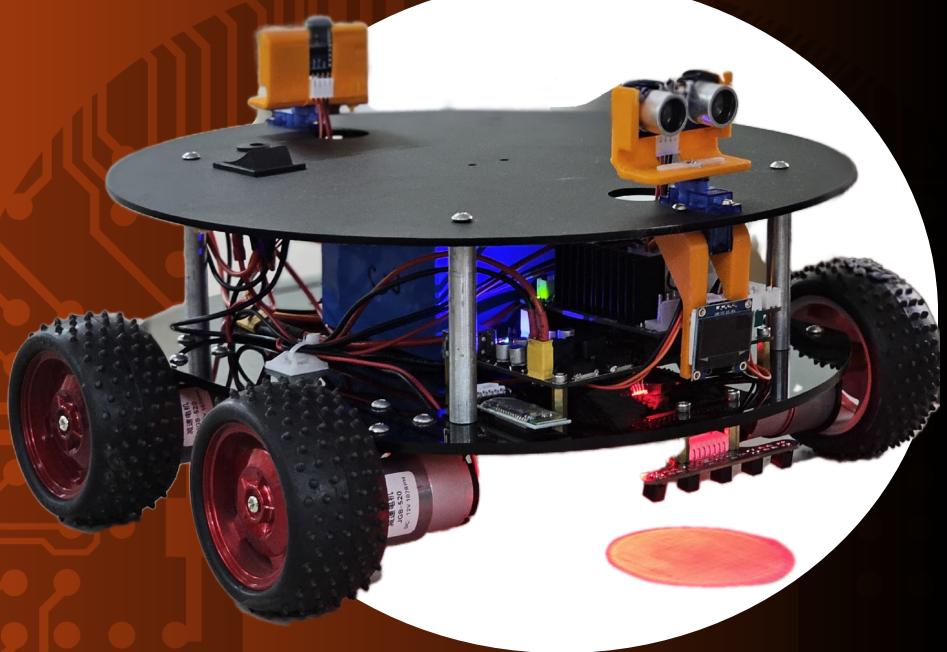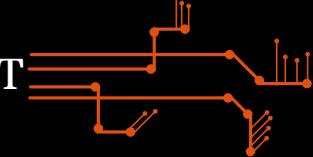
1. ROMOS INTERFACE BOARD – 1 NO
2. MULTI COLOUR DISPLAY ANNUNCIATOR – 1 NO
3. HAT FOR ROMOS WITH MOTOR DRIVER – 1 NO
4. BLUETOOTH MODULE – 1 NO
5. SERVO ACTUATED ULTRASONIC SENSOR – 2 NOS
6. LINE FOLLOWER SENSOR – 1 NO
7. INERTIAL MEASUREMENT UNIT – 1 NO
8. OLED DISPLAY – 1 NO
9. BUZZER – 1 NO
10. POWER SWITCH / CHARGING SWITCH MODULE – 1 NO
11. 1.STM32 PROGRAMMER MODULE – 1 NO
12. LOW BATTERY INDICATION – 1NO
13. 12V DC MOTOR – 4 NOS
14. MOTOR BRACKET – 4 NOS
15. CASTOR WHEELS – 4 NOS
16. RUBBER WHEELS – 4 NOS
17. CHASSIS SET – 1 NO
18. 12V, 6AH BATTERY – 1 NO
19. BATTERY CHARGER – 1 NO
20. NUTS AND BOLTS – 1 SET
21. CONNECTORS – 1 SET
22. SCREWDRIVER SET – 1 NO

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LIST OF FEW PROGRAMMING CAPABILITIES

BASIC MAPPING USING ULTRASONIC SENSOR

MAZE SOLVING

DISCRETE LINE FOLLOWING AND MANY MORE

ANNUNCIATIONS

TEMPERATURE DETECTION WITH ADDON SENSOR (I2C)

OBSTACLE AVOIDANCE

SMOKE DETECTION WITH ADDON SENSOR (I2C)

LINE FOLLOWING

TERRIAN IDENTIFICATION LIKE PLAIN OR SLOPES

NAVIGATION ALGORITHM

OPERATION OVER MOBILE APPS

REMOTE OPERATIONS

★ END PRODUCT MAY BE DIFFERENT FROM IMAGES