



GENIUS BIT ACADEMY

Foundation in Robotics & IoT

COURSE CONTENT

WHO WE ARE

A bunch of disruptive critical thinkers who are determined to make a difference in young adults in Sri Lanka.

OUR VISION

Arming the next generation kids with the technical know-how and the innovative skill-set necessary to challenge the frontiers of world technologies.

OUR MISION

Armed with a strong basic foundation on IOT and robotic principles we are determined to challenge dormant young minds to think differently and to shape them to be intuitive problem solvers in electronics who would independently recognize the need to adapt to the constantly challenging landscape.



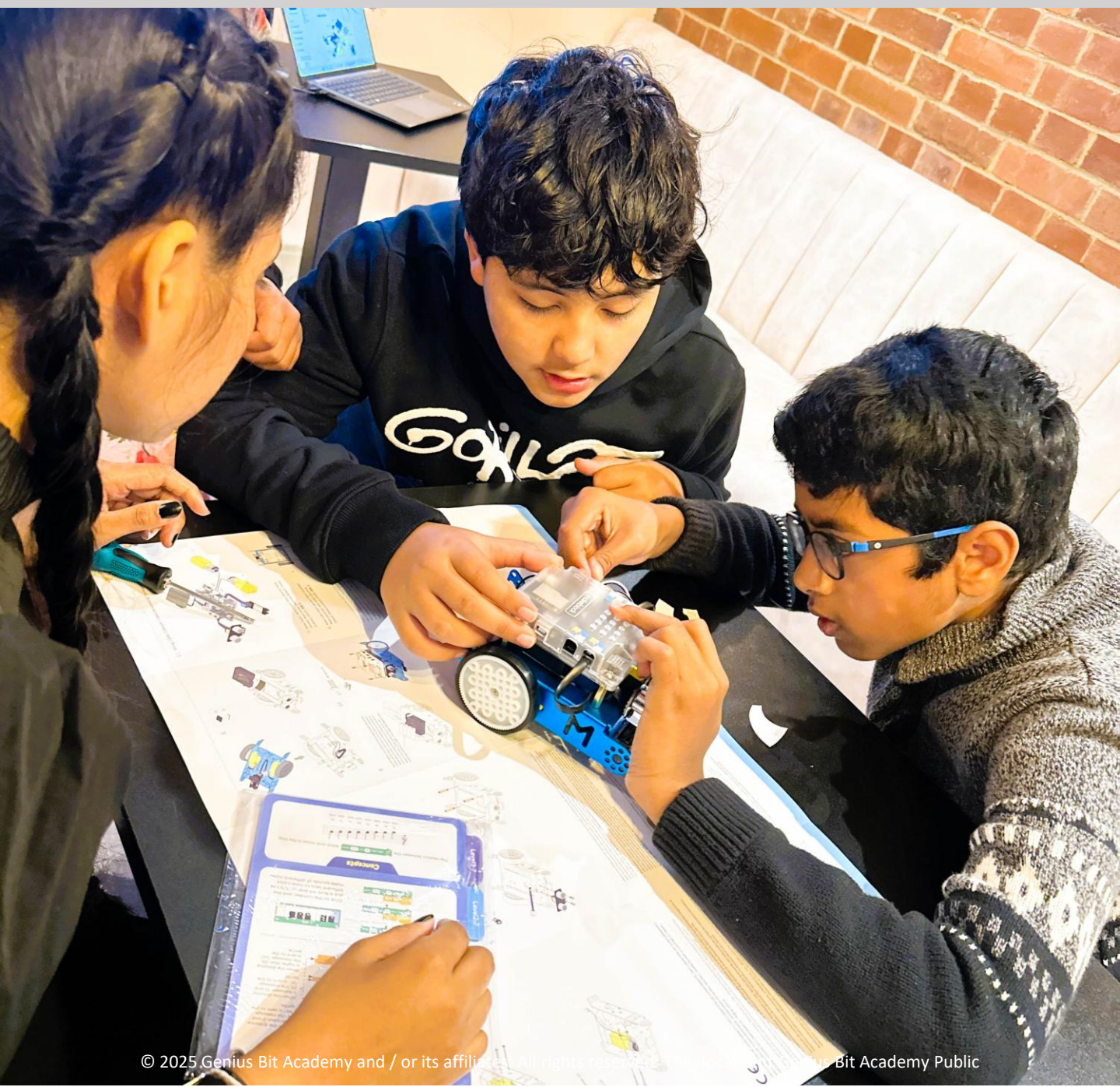
PROGRAMMING FUNDAMENTALS

- Introduction to programming environment
- Simple programs using blockly programming
- Introduction to C programming language
 - Types, operators and expressions
 - Decision Making (If, If - Else, If - Else If - Else, Switch)
 - Loops (While, Do - While, For)



MICROCONTROLLERS PROGRAMMING – ARDUINO UNO

- Introduction to Microcontrollers
- Introduction to Arduino
 - Explore the components of an Arduino UNO
- I/O control of a microcontroller
- Sensors
 - What are sensors and why we use them?
 - Different types of sensors
 - Practical with sensors



EMPOWERING TOMORROW'S INNOVATORS TODAY WITH GENIUS
BIT ACADEMY

UNLEASH THE FUTURE WITH NEXT-GEN ROBOTICS EDUCATION

We challenge curious



“The only way to do great work is love what you do”

- Steve Jobs -

BASIC ELECTRICAL AND ELECTRONICS

- Basic of Electronic circuit symbols
- Reading Electrical schematics
- Resistors and Resistive Circuits
- Exploring Ohm's law
- Capacitors
- Diodes
- Digital Electronics
- Alternating Current (AC) vs Direct Current (DC)
- Building circuits on breadboard
- Circuit simulation
- Battery models - Types of energy sources used to power up the circuits
- Analog and Digital signal



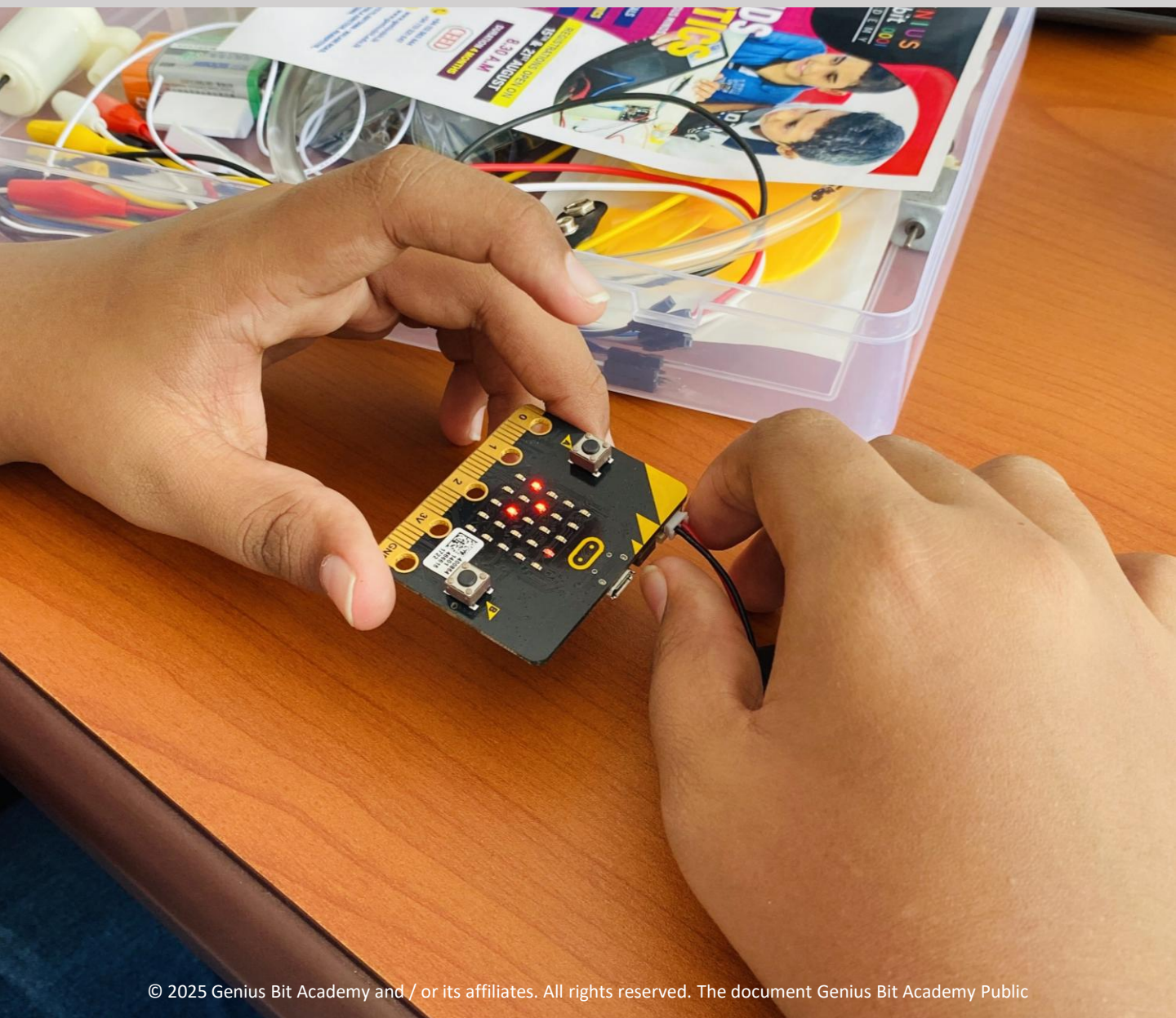
3D DESIGN & MODELING

- Introduction 3D design
- Adding and Modifying shapes
 - Learning objectives
 - Setting up the perspective grid
 - Adding and moving 3D shapes
 - Scaling and changing dimensions
 - Measuring with the ruler
 - Using hole shapes
 - Duplicating shapes
 - Creating patterns
- Working with shape generators
- Building complex shapes
- Importing 2D and 3D assets
- Creating a basic robot
- 3D printing



ROBOTICS

- Introduction to Robotics
 - Definition of Robots and Robotics
 - Historical Overview of Robotics
- Basic Robotic Behaviors
- Understanding of different types of Robots:
 - Entertainment Robots
 - Humanoid Robots
 - Space Robots
 - Underwater Robots (ROVs/AUVs)
- Robot Components and Anatomy
 - Robot structures: arms, wheels, tracks, legs, etc.





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Entry Requirement – Age 07 to 10, 11 to 16

Language – English

Methodology – Lectures / Practical

Duration – 20 Sessions

GENIUS BIT ACADEMY

WE CHALLENGE CURIOUS MINDS



CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY THAT

NAME OF THE STUDENT

HAS SUCCESSFULLY COMPLETED

**FOUNDATION IN ROBOTICS & IoT
CONDUCTED BY GENIUS BIT ACADEMY**

23-10-2022

DATE

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