

THE CHALLENGE

YOUR AI CHAT CAN DESCRIBE A ROBOT. IT CAN'T BUILD ONE.



A robot is one connected system. A chat is a stream of separate answers.

By Genuine Robotics Team

If ask any AI chat for "a delivery rover with an ESP32" and you'll get a confident parts list, a wiring paragraph and some code. Then you open your CAD tool, your circuit tool and your notebook, and none of them know about each other. The answer was fluent. The robot is still a blank page.

Chat assistants are excellent for explaining concepts and drafting code. Where they fall short is continuity: the motor chosen in message 3 isn't checked against the battery chosen in message 9, and nothing reruns when you change the payload. Robot errors live in the gaps between disciplines:

CAD ↔ Circuit:

The servo in the mechanical model isn't the one wired in the schematic.

Circuit ↔ Power:

Stall current from twelve actuators was never added to the supply budget.

Sim ↔ Real:

The model looked right, but nobody measured where it stopped matching the hardware.

ONE PROJECT, FROM CAD TO A TRAINED ROBOT BRAIN

01. DESIGN: Structure Builder

Model parts and assemblies in 3D.

02. ELECTRONICS Circuit Builder:

Design and simulate the electronics.

03. ENGINEERING

Build a robot without guesswork or hoping it works. Our platform uses engineering, math and science to ensure it works safely and lasts.

04. BRAIN

Give the robot a brain: simulate, evaluate and train AI models.

SIZING A BATTERY FOR A CAMPUS DELIVERY ROVER

Goal: a 4-wheel rover carries a 2 kg parcel, runs 2 hours per charge, avoids obstacles with ultrasonic sensors, and runs on an ESP32. The runtime requirement sets the battery:

Battery (Wh) $\approx$ Avg power (W) $\times$ Runtime (h) $\div$ Usable fraction
 e.g. 20 W $\times$ 2 h $\div$ 0.8 = 50 Wh

Illustrative numbers only. The 20 W average is an assumption; your real figure depends on motors, terrain, slope and duty cycle. That's the point: change the motor in CAD and this number must change too. In a connected workflow it does; in a chat log it doesn't.

What to Check

5 checks before you trust an AI-generated robot design

01. One parts list:

Do CAD, schematic and code all reference the same actuator and controller?

02. Torque at reach:

Is the joint torque calculated with payload at full extension, not at rest?

03. Power tree:

Does the supply cover peak/stall current, not just the average?

04. Simulated first:

Have the circuit and the motion been simulated before anything is soldered or printed?

05. Sim-to-real gap measured:

Do you know, joint by joint, where the model stops describing the machine?

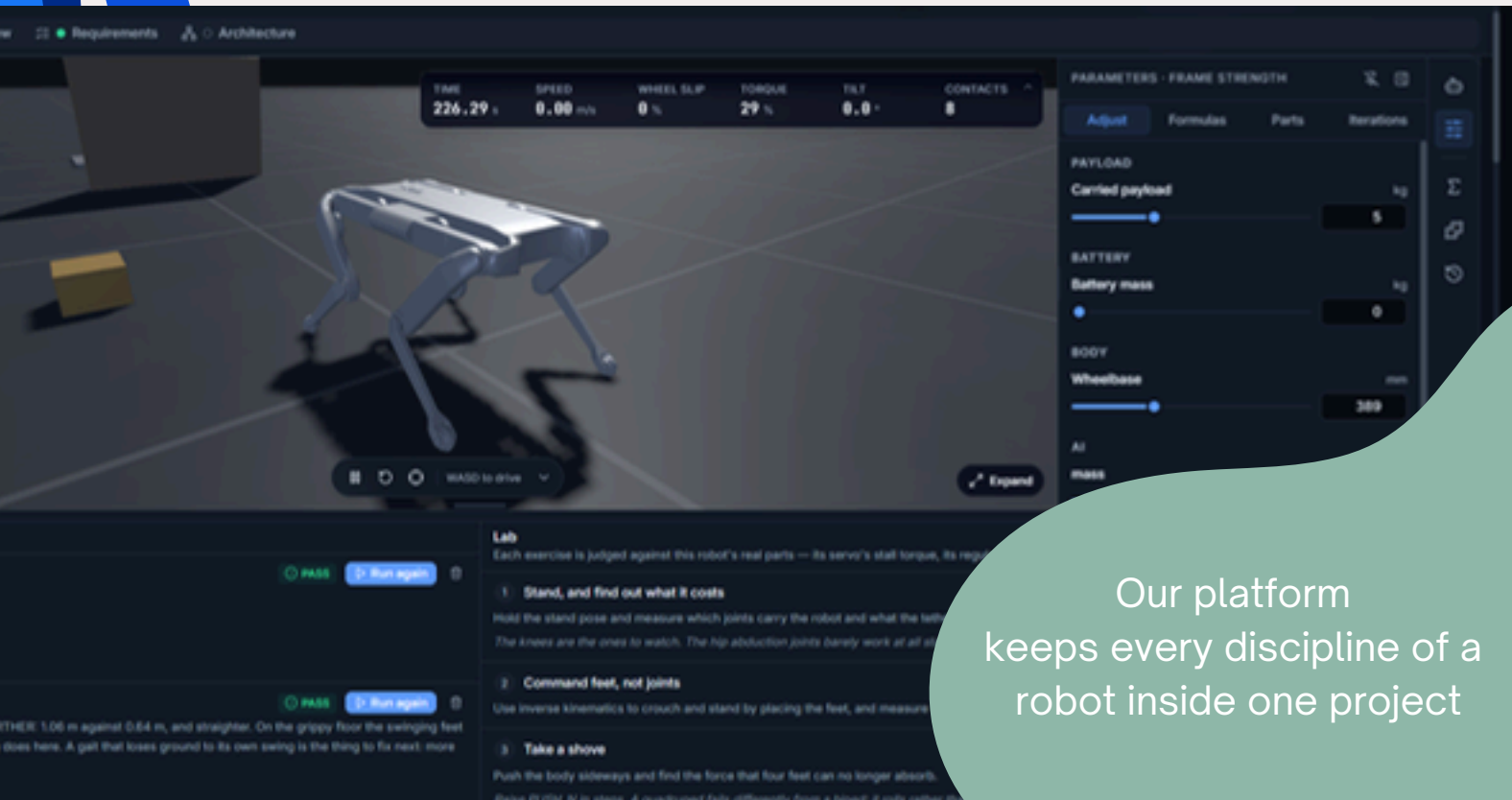


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GENUINE ROBOTICS

WE ACCELERATE YOUR ROBOTIC JOURNEY FROM IDEA TO EXECUTION WITH PRECISION AND CLARITY.

Genuine Robotics is an AI-powered platform for building robotic systems from first principles. We help companies, institutions and individual engineers design, simulate and validate robots — from circuits and CAD to ROS simulation and live telemetry — all in one place. The result: fewer failed prototypes, faster builds, and stronger engineering skills across your team.



Our platform keeps every discipline of a robot inside one project

A Message from the CTO

After 10 years in robotics, I learned that the hardest part isn't electronics, CAD or code on their own. It's keeping all three in sync. One small change could ripple through all of them, and handling it took rare, multidisciplinary skill and expensive software. At Genuine Robotics, we've spent the past few years building tools that bring electronics, mechanics and kinematics into one place, with AI helping carry that experience to every builder.

Naveenkumar
Chief Technical Lead
Genuine Robotics



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