

ELECFREAKS Unveils XGO-Rider: An Engaging Two-Wheeled Self-Balancing Robot for micro:bit

ELECFREAKS unveils XGO-Rider for micro:bit—a compact, self-balancing robot with omnidirectional movement and easy coding, making STEM learning fun & accessible.

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/EINPresswire.com/ -- Engaging students with hands-on robotics in STEM education has often presented challenges, with kits sometimes being limited in scope or requiring significant prior knowledge. However, the landscape is continually evolving, with new tools emerging that make learning coding and engineering principles more interactive and accessible.

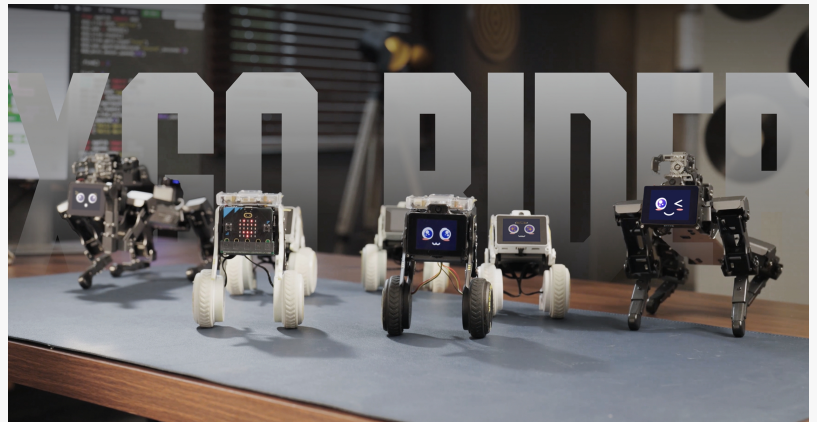
Addressing this, ELECFREAKS, a company with 14 years of experience in developing STEM education hardware, has introduced the [XGO-Rider for micro:bit](#). The XGO-Rider for micro:bit distinguishes itself with its unique bipedal, self-balancing design, offering a dynamic platform for learning that goes beyond traditional wheeled robots. By integrating with the micro:bit, users can tap into a familiar and beginner-friendly coding environment like MakeCode graphical programming, as well as Python, making it suitable for a broad range of skill levels, from middle school students to more advanced enthusiasts.

Key Features and Educational Benefits of the XGO-Rider for micro:bit

Appealing and Space-Saving Design



micro:bit XGO-Rider overall appearance



micro:bit XGO-Rider and other XGO Series robots

The robot boasts an attractive, compact build, so small it's among the few advanced robots that can comfortably be held in the palm of one hand. This exceptional portability means it not only looks great but also integrates seamlessly into various environments, from a classroom desk to a child's room. Its convenient, hand-holdable size is particularly beneficial for learning programming and enjoying interactive play, especially where space might be limited.

Moves in Any Direction with Power and Precision

The XGO-Rider excels in moving with remarkable power, precision, and freedom. A standout capability is its omnidirectional movement, allowing it to glide smoothly in any direction – forwards, backwards, sideways, or diagonally – without the need for preliminary turning. This agility is achieved through advanced wheel hub motors utilizing FOC (Field-Oriented Control) for exceptionally smooth operation. Complementing this are robust, all-metal joint components, known as servos, which employ magnetic encoding for highly accurate control. These elements work in concert to deliver a robot that is not only agile and stable but also responds to commands with significant power and pinpoint accuracy.

Great Terrain Adaptability

The XGO-Rider has motion sensor inside, an IMU (Inertial Measurement Unit), continuously tracks its orientation and movement. This crucial sensor data enables the XGO-Rider to automatically adjust itself and maintain balance, allowing for smooth operation across different surfaces and the ability to navigate around obstacles effectively.

Simple to Program and Great for Learning

Ease of use for aspiring coders is paramount, making the XGO-Rider simple to program and exceptionally education-friendly. It supports MakeCode, a graphical programming platform that allows users to construct programs by dragging and dropping code blocks. This visual approach significantly lowers the barrier to entry, making it very easy for beginners, particularly children, to embark on their programming journey. For those with more experience or an inclination to delve deeper, the XGO-Rider also provides an open Python interface, facilitating more complex and customized programming projects. This dual approach makes it an ideal instrument for both educational pursuits and recreational fun.

Easy Remote Control with Your Phone

Enhancing its user-friendliness, the XGO-Rider offers easy remote control directly from a smartphone. Through a dedicated mobile application and a Bluetooth connection, users can effortlessly steer the robot and even program its actions remotely. This feature adds a significant layer of convenience and elevates the interactive experience, making engagement with the XGO-Rider both intuitive and enjoyable.

Distinguishing from Other Versions

It's important to note that while the XGO-Rider also has a [Raspberry Pi-based version](#) capable of more intensive AI processing, this micro:bit iteration is specifically tailored for accessibility, ease of entry into programming, and leveraging the strengths of the micro:bit environment. The

ELECFREAKS Wiki provides detailed guidance and resources for the micro:bit variant, ensuring users have the specific support they need.

About ELECFREAKS

ELECFREAKS is a technology company dedicated to providing innovative and high-quality electronic modules, expansion boards, and STEM education solutions. With a strong focus on open-source hardware and fostering a global community of makers and learners, ELECFREAKS aims to make STEM education accessible and engaging for everyone.

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