# China unveils Black Panther 2.0, the fastest robotic dog



A recent breakthrough in robotics has emerged from China, with the unveiling of Black Panther 2.0, a robotic dog that has sprinted a 100-metre dash in under 10 seconds, joining the esteemed '10-second club'. This achievement positions it as one of the fastest quadrupedal robots to date, outperforming previous records and drawing attention to cutting-edge advancements in artificial intelligence and robotics.

The Black Panther 2.0, which weighs 38 kilograms and stands at a height of 0.63 metres, is capable of executing up to five strides every second. The robotic canine has successfully completed the 100-metre dash well under the previous record of 19.87 seconds set by South Korea's HOUND. This remarkable performance exemplifies the strides made in robotic technology and speed.

The design of Black Panther 2.0 is inspired by two distinct creatures: the panther and the long-legged jerboa. Its construction incorporates various springs at the joint positions, enhancing shock absorption capabilities and allowing it to maintain high speeds without compromising performance. The carbon-fiber shins emulate the jerboa's anatomy, providing a significant increase in stiffness—135%—with only a minor weight gain of 16%, thereby improving both durability and efficiency. Additionally, the robotic dog features claw-like ‘running shoes’ inspired by cheetah claws, which increase grip by an impressive 200%.

Central to the robot's advanced capabilities is its integration of artificial intelligence and machine learning, enabling real-time adjustments to its gait across various terrains. The movement of its limbs is coordinated through the Huygens’ coupled pendulum principle, allowing for synchronised motion. The project also boasts high-power-density motor drivers that have been custom-developed, delivering exceptional strength and precision crucial for industrial applications.

The Black Panther 2.0 is the result of a collaboration between Zhejiang University and Mirror Me, a startup based in Hangzhou. Remarkably, the prototype was developed in just three months, showcasing the efficient integration of advanced software and hardware. Professor Wang Hongtao, the project lead from Zhejiang University, noted that the team faced multiple challenges to achieve a fully functional robot within such a condensed timeline.

Beyond its record-breaking speed, Black Panther 2.0 signifies a significant leap in bridging the gap between robotic and biological mobility. The development team envisions that future iterations could exceed even the fastest land animals such as cheetahs and ostriches, reflecting a keen commitment to exploring the untapped potentials within the field of robotics. The implications of such advancements may lead to diverse applications across industries, from exploration to defence, potentially transforming the way robots interact with their environments in the years to come.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

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