Leg Movement & Gaits

Introduction:

Leg movement and gaits play a crucial role in robotics, especially for legged robots designed to navigate complex terrains.

Legged robots are a type of mobile robot which use articulated limbs, such as leg mechanisms, to provide locomotion. They are more versatile than wheeled robots and can traverse many different terrains, though these advantages require increased complexity and power consumption.

Gait and support pattern:

https://www.iitp.ac.in/~athakur/courses/ME512/L11--Legged Robot Gaits.pdf

Legged robots, or walking machines, are designed for locomotion on rough terrain and require control of leg actuators to maintain balance, sensors to determine foot placement and planning algorithms to determine the direction and speed of movement.[3][4] The periodic contact of the legs of the robot with the ground is called the gait of the walker.

Types:

Legged robots can be categorized by the number of limbs they use, which determines gaits available. Many-legged robots tend to be more stable, while fewer legs lends itself to greater maneuverability.

1. **One-legged**
2. **Two-legged**
3. **Four-legged**
4. **Six-legged**
5. **Eight-legged**
6. **Hybrids**

https://en.wikipedia.org/wiki/Legged_robot