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## UTILIZING INTEGRATED SYSTEMS TO UPGRADE HUMANOIDS FOR USE IN SPACE

**Abstract**

With the advancement of technology and tactics, space exploration has reached new heights. Robots, in particular, have made a significant contribution to Astronautics. Rovers, land-miners, helicopters, communicators, and other technologies were employed. However, they can all complete only a restricted number of jobs and have significant flaws and restrictions. Curiosity, for example, its wheel configuration prevents it from overcoming certain varieties of surface impediments. We introduced the helicopter. Due to the thin atmosphere, however, ingenuity is unable to perform the desired flight. This paper examines such issues with current and previous robots, and proposes an integrated system as a potential solution, with humanoids as the primary focus. The humanoids of 2022, such as Sophia, Emo, Ameca, and Robotic Cheetah, are extremely sophisticated. The research paper outlines the advantages of the use of humanoids in space and addresses a few shortcomings while suggesting their solutions. Primarily, for the goal of making human civilization interplanetary, we need plans for distant space travel. Given the vastness of the universe, this study proposes the deployment of humanoids aboard spaceships. They do not face the phenomenon of death and produce no waste. They can be switched off in the presence of built-in artificial intelligence (AI) to save energy. Such machines integrate technologies including cameras, remote sensing, dynamics, audio, machine learning, memory, communication, armaments, and computations, and allow us to add more regardless of their initial presence in a single structure. Humanoid leg structures can permanently solve the wheel's structural issue. In the case of ground-free movements, due to its lighter weight and vertical body expansion, a humanoid can easily plan a suitable flight using a jetpack. Furthermore, rather than developing radiation-resistant spacesuits, we may use materials like graphene to protect just susceptible areas such as semiconductors. Despite all of these sudden advances, a humanoid's lack of emotional intelligence makes many upgrades useless due to its non-spontaneous decisions. Humanoids' emotional decisions can allow them to collaborate and enhance their responsiveness to stimuli in hostile environments. This work attempts to tackle the problem by employing Game Theory for decision-making and accurate dynamics. And, Mathematical logic will solve conditional statements. Hence, the research work concludes the use of humanoids for space exploration and solving almost all the remaining issues with integrated systems and Game Theory.