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GENERAL RESEARCH ON APPLICATIONS OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN SPACE EXPLORATION ACTIVITIES

Abstract

In recent years, research on artificial intelligence and relative intelligent hardware improved rapidly, and the applications of them have become more and more effective in both space-relative and other industries. In space exploration missions, the environmental threats that the spaceships, space transfer vehicles and spacemen have to face and overcome calls for more and more intelligent equipment and components to meet the need of safety and efficiency of future space explorations. In this article, at first, a general review of successful artificial intelligence applications in on-orbit performing platforms, payloads, mission planning and re-planning, etc. will be made. Furthermore, the general discussion on applications of artificial intelligence in future space missions will be put forward. These applications include auto-launching, auto-combining, auto-recruiting and landing, on-orbital fixing and robot applications and the reliability, expectation and critical technologies of those applications.