

Robotics Using Mix Reality

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Abstract: It combines the virtual and physical worlds. People can engage with computers and the environment in new ways thanks to the combination of the physical and digital worlds. Simply put, it gives users the ability to create a new environment in which actual and virtual items interact. Applications for MR are always growing, ranging from giving construction workers remote assistance to helping developers test their software virtually. One of the most well-known justifications for the necessity for MR is healthcare. In this area, MR can be used by surgeons to carry out operations and acquire improved data visualisations without compromising human life. Another use of MR that lowers the cost of resource acquisition is as a key tool for rendering real-world physical objects as 3D holograms lowering the cost of resource acquisition and usage. Mixed Reality is an effective tool instrument for research and development in robotics. In this paper, we clarify the idea of mixed reality to enable for a variety of physical and virtual settings that allow for seamless interaction between real-world and virtual items. This research paper describes the idea that by enabling algorithms to be prototyped on a mix of real and virtual objects, such as robots, sensors, and people, mixed reality may close the gap between simulation and implementation. Robots can have virtual capabilities added to them, and they can communicate with people while not moving at the same physical rate. Using Leap Motion and HoloLens, the operator may remotely control a robot within a mixed reality environment, improving the operational experience.

Keywords: Extreme Machine Learning, Microsoft Hololens, Mixed Reality, Mixed Reality in Robotics, Robotics.

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