

A Literature Survey on Quadruped AI Assistant: Integrating Image Processing and Natural Language Processing for Emotional Intelligence

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Abstract: *At the nexus of artificial intelligence, robotics, image processing, and natural language processing (NLP), quadruped AI assistants provide a revolutionary method of interacting with machines. Intending to give quadruped AI assistants emotional intelligence, this literature review methodically looks over and compiles the body of research, concentrating on how to use natural language processing and image processing together. The review seeks to offer a comprehensive grasp of the developments, challenges, and possible uses in this diverse subject. The initial section of the survey provides an overview of quadruped robots and highlights how they are integrated with image processing technology to provide visual perception. It explores the various locomotion techniques, demonstrating how these robots use picture data to improve their capacity to navigate and adapt to different situations. The conversation also touches on sensor technologies, highlighting their function in obtaining and deciphering visual data for intelligent interaction. In addition, the research delves into how quadruped AI assistants include natural language processing and examines how these robots interpret and react to instructions in human language. One of the main topics of debate is how sentiment analysis and emotional recognition methods might help these assistants become more emotionally intelligent. Finally, this review of the literature offers a comprehensive viewpoint on how natural language processing and image processing are integrated in quadruped AI assistants, providing academics and practitioners with an outline for developing emotional intelligence in these robots. Compiling knowledge from robotics, artificial intelligence, image processing, and natural language processing is essential to creating emotionally competent quadruped AI assistants and ensuring their smooth incorporation into human-centered settings. This research also investigates the integration of Natural Language Processing and Image Processing for Emotional Intelligence in Quadruped AI Assistants and thoroughly assesses the gyroscope functioning on these robotic systems.*

Keywords: Quadruped AI Assistants, Digital Image Processing, Natural Language Processing, Artificial Emotional Intelligence (AEI).

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