A Research on: AI Based Activity Monitoring System with GUI Interface

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Abstract: *The increasing elderly population poses significant challenges to healthcare systems, particularly due to a shortage of caregivers. Smart aging technologies such as robotic companions and digital home devices have emerged as potential solutions to assist in elderly care by improving their quality of life and reducing caregiver burden. However, existing solutions face limitations concerning data privacy, real-time processing, and reliability. This paper presents an AI-driven system designed to monitor elderly activities in real-time while addressing privacy concerns. Utilizing stereo depth cameras, the system monitors daily activities such as sitting, standing, and transitions between movements. This paper summarizes the project's current progress, relevant methodologies, and the future scope of this system*

Keywords: Elderly care, Smart aging, YOLOv8, Activity monitoring, privacy, Stereo depth cameras, Deep learning.