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(57) Abstract :
The present invention discloses a gesture-controlled interface system (100) for IoT-enabled smart appliances (130, 140, 150), utilizing a gesture sensing unit (120) integrated with depth and infrared sensors, and a CNN-RNN-based recognition module for accurate gesture interpretation. The system enables touch-free appliance control, supports user-defined gesture customization, and provides real-time feedback via visual and haptic cues. A mobile application (160) facilitates configuration, logging, and updates. The system ensures compatibility across diverse communication protocols, enhancing convenience, hygiene, and accessibility in smart home environments.

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