

2.2 AI and Automation [Popoola, B., 2024]

[2] explores the transformative effect of AI and automation across diverse industries. [2] highlights the ability of AI algorithms to streamline operations, improve customer enjoyment, and assist selection-making. [2] emphasizes the importance of moral considerations, regulatory frameworks, and stakeholder collaboration. The insights supplied in [2] may be carried out to lay out moral and green voice-assisted distant computer automation systems.

2.3 Voice-Based Virtual Assistant [Ahmad, D., & Kiran, H. S., 2023]

[3] provides the development of a voice-based totally smart digital assistant using gadgets gaining knowledge of natural language processing. The assistant plays tasks which include setting reminders, sending messages, and controlling smart gadgets. The usage of context focus and continuous learning makes the machine highly efficient. These capabilities are noticeably relevant to developing voice-assisted distant laptop automation systems.

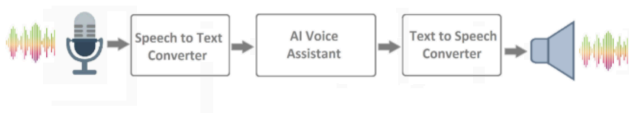


Figure II Voice-based Virtual Assistant

2.4 E-MQTT Communication Mechanism [Zhou, X. et al., 2024]

[4] introduces an enhanced MQTT protocol (E-MQTT) for synchronous and asynchronous communication. The protocol reduces message exchanges and improves verbal exchange efficiency, making it ideal for IoT-based voice-assisted automation systems. Integrating E-MQTT into remote laptop automation structures can beautify performance and reliability.

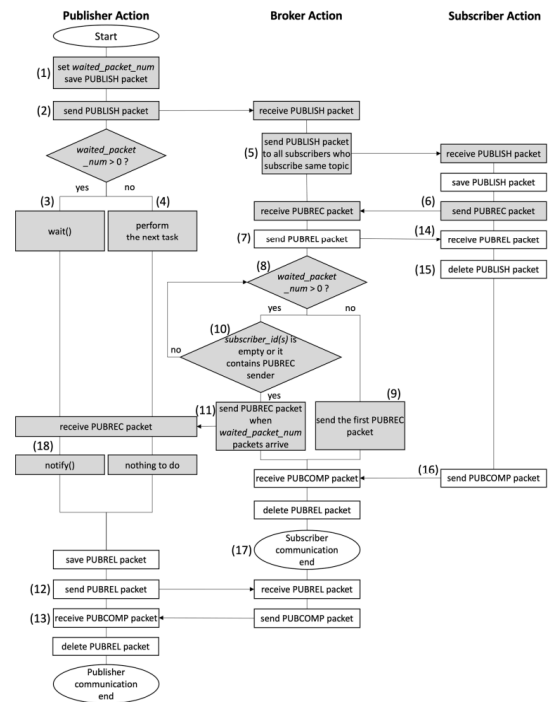


Figure III Block diagram of MQTT Protocol

III. COMPARATIVE ANALYSIS

Feature	Mobile App	AI Automation	Voice Assistant	Virtual Assistant	E-MQTT
User Interaction	Intuitive	Data-Driven	Politeness	Context-Aware	Asynchronous
Control System	Remote Lab	Business Ops	Social Tasks	Smart Devices	IoT Devices
Communication Protocol	HTTP	N/A	N/A	N/A	MQTT
Learning Ability	No	Limited	No	Continuous	No
Security Considerations	Moderate	High	Low	Moderate	High

Table I Comparative Analysis of NLP, MQTT, Virtual Assistant for Remote PC Automation

IV. BLOCK DIAGRAM

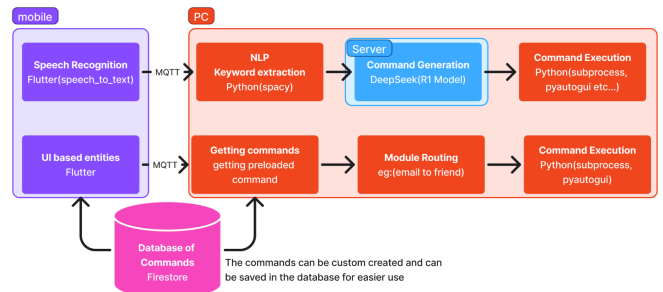


Figure I Block diagram of AI-driven voice-assisted Remote PC Automation

V. Challenges and Future Directions

- Integration of NLP and gadget learning for greater accurate voice recognition.
- Addressing protection and privacy concerns in distant computer automation.
- Enhancing people's enjoyment via personalized and well-mannered voice responses.
- Optimizing conversation protocols for actual-time overall performance.
- Collaboration among AI researchers and enterprise stakeholders.

VI. CONCLUSIONS

The reviewed papers collectively highlight the advancements and demanding situations in AI-driven voice-assisted far flung pc automation. The mixing of voice-based digital assistants, networked control structures, and optimized communicate protocols paves the way for smarter and person-friendly automation systems. Destiny studies need awareness on improving protection, personalization, and seamless consumer experiences.

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