IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 3, Issue 2, April 2023

Virtual Assistance using Python

Pranav Ambhore¹, Pavan Ingole², Ritesh Shinde³, Vedant Jadhav⁴, Prof. S. L. Dawkhar⁵

Students, Department of Information Technology¹
Professor, Department of Information Technology^{2,3,4,5}
Sinhgad College of Engineering, Pune, Maharashtra, India

Abstract: The paper explores the potential of utilizing new technology to develop an intelligent Virtual Assistant that is capable of using natural language processing and user-based data. It examines existing intelligent programs with different categories of support and evaluates the potential usefulness of a particular software as a Virtual Assistant. The proposed Virtual Assistant should be able to communicate socially through natural language processing, store and analyze user data, and operate without the need for human input or programming. The paper suggests that with advancements in technology, creating virtual personal assistants could become a reality. The authors conducted experiments on a specific software and performed user testing, which demonstrated that a basic program with natural language processing algorithms could already be viable. Overall, the paper presents the idea of an intelligent Virtual Assistant that could revolutionize the way we interact with technology.

Keywords: Python programming language, Natural Language Processing (NLP), Wolfram Alpha API, desktop assistants, machine learning, text-to-speech, speech-to-text, language processing, voice recognition, artificial intelligence, Internet of Things (IoT), and virtual assistants.

REFERENCES

- [1]. S Subhash; Prajwal N Srivatsa; S Siddesh; A Ullas; B Santhos. Artificial Intelligence-based Voice Assistant, IEEE, 2020. https://ieeexplore.ieee.org/document/9210344/
- [2]. EV Polyakov, MS Mazhanov, AY Voskov, LS Kachalova, MV and SV Polyakov, "Investigation and development of the intelligent voice assistant for the IOT using machine learning", Moscow workshop on electronic technologies, 2018.
- [3]. Veton Kepuska and Gamal Bohota, "Next generation of virtual assistant (Microsoft Cortana Apple Siri Amazon Alexa and Google Home)", IEEE conference, 2018.
- [4]. Laura BURbach, Patrick Halbach, Nils Plettenberg, Johannes Nakyama, Matrina Ziefle and Andre Calero Valdez, "Ok google Hey Siri Alexa. Acceptance relevant of virtual voice assistants", International communication conference IEEE, 2019
- [5]. X. Lei, G. Tu, A. X. Liu, C. Li and T. Xie, "The insecurity of home digital voice assistants amazon alexa as a case study", CoRR, vol. abs/1712.03327, 2017.
- [6]. J. Gratch, N. Wang, J. Gerten, E. Fast and R. Duffy, "Creating rapport with virtual agents" in Intelligent Virtual Agents, Berlin, Heidelberg: Springer Berlin Heidelberg, pp. 125-138, 2017.
- [7]. B. Weiss, I. Wechsung, C. Kühnel and S. Möller, "Evaluating embodied conversational agents in multimodal interfaces", Computational Cognitive Science, vol. 1, pp. 6, Aug 2015.
- [8]. Y. Matsuyama, A. Bhardwaj, R. Zhao, O. Romeo, S. Akoju and J. Cassell, "Socially-aware animated intelligent personal assistant agent", Proceedings of the 17th Annual Meeting of the Special Interest Group on Discourse and Dialogue, pp. 224-227, 2016.
- [9]. M. Schroeder, E. Bevacqua, R. Cowie, F. Eyben, H. Gunes, D. Heylen, et al., "Building autonomous sensitive artificial listeners", IEEE transactions on affective computing, vol. 3, pp. 165-183, 2018.
- [10]. Hannun, C. Case, J. Casper, B. Catanzaro, G. Diamos, E. Elsen, et al., "Deep speech: Scaling up end-to-end speech recognition", CoRR, vol. abs/1412.5567, 2014.
- [11]. M. Schröder and J. Trouvain, "The german text-to-speech synthesis system mary: A tool for research development and teaching", International Journal of Speech Technology, vol.

DOI: 10.48175/IJARSCT-9131



IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 3, Issue 2, April 2023

- [12]. P. Cosi, F. Tesser, R. Gretter, C. Avesani and M. Macon, "Festival speaks italian!" in EUROSPEECH 2001 Scandinavia 7th European Conference on Speech Communication and Technology 2nd INTERSPEECH Event, pp. 509-512, 2001.
- [13]. D. Huggins-Daines, M. Kumar, A. Chan, A. W. Black, M. Ravishankar and A. I. Rudnicky, "Pocketsphinx: A free real-time continuous speech recognition system for hand-held devices" on Acoustics Speech and Signal Processing Proceedings, May 2018

DOI: 10.48175/IJARSCT-9131

- [14]. Think Python Book, Allen Downey
- [15]. A Python Book Author: Dave Kuhlman
- [16]. Python by Narayana Book

