

Controlling Drone Flight Missions through Natural Language Processors Using Artificial Intelligence

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Abstract : Unmanned Aerial Vehicles (UAV) as they are also known, drones have attracted increasing attention in recent years due to their ubiquitous nature and boundless applications in the areas of communication, surveying, aerial photography, weather forecasting, medical delivery, surveillance amongst others. Operated remotely in real-time or pre-programmed, drones can fly autonomously or on pre-defined routes. The application of these aerial vehicles has successfully penetrated the world due to technological evolution, thus a lot more businesses are utilizing their capabilities. Unfortunately, while drones are replete with the benefits stated supra, they are riddled with some problems, mainly attributed to the complexities in learning how to master drone flights, collision avoidance and enterprise security. Additional challenges, such as the analysis of flight data recorded by sensors attached to the drone may take time and require expert help to analyse and understand. This paper presents an autonomous drone control system using a chatbot. The system allows for easy control of drones using conversations with the aid of Natural Language Processing, thus to reduce the workload needed to set up, deploy, control, and monitor drone flight missions. The results obtained at the end of the study revealed that the drone connected to the chatbot was able to initiate flight missions with just text and voice commands, enable conversation and give real-time feedback from data and requests made to the chatbot. The results further revealed that the system was able to process natural language and produced human-like conversational abilities using Artificial Intelligence (Natural Language Understanding). It is recommended that radio signal adapters be used instead of wireless connections thus to increase the range of communication with the aerial vehicle.

Keywords : artificial intelligence, chatbot, natural language processing, unmanned aerial vehicle

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