UNIVERSITY OF SOUTH FLORIDA

Major Research Area Paper Presentation

The State-of-the-Art of Human-Drone Interaction: A Survey

by

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For the Ph.D. degree in Computer Science & Engineering

As drone systems with a human-in-the-loop are becoming popular, it is important to achieve a natural human-drone interaction. Although some knowledge can be derived from the field of human-robot interaction, there are unique drone's characteristics that make human-drone interaction a field of its own. We present the first survey on the emerging field of human-drone interaction, including the state-of-the-art research and technologies, innovative control methods, social aspects of interaction, and novelty drone prototypes. Furthermore, we provide the necessary background for researchers who would like to contribute to the field, and a comparison of the commercial of the shelf drone models mostly used by end-users and researchers. Concluding, we propose an innovative modular drone system that allows the user to tailor the intended use, speed, payload capability, and flight time by quickly swapping motors, propellers, batteries, and sensor modules.

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