Artificial Intelligence techniques for autonomous drone swarms

Alejandro Puente-Castro, Daniel Rivero, Alejandro Pazos, Enrique Fernandez-Blanco

Path planning is a critical problem that entails calculating a wide range of ideal paths for each drone in a swarm. If this challenge could be solved, it would be possible to control a large number of drones without the need for human involvement while preserving optimal trajectories. The fewer people needed to operate UAVs and the shorter the path, the lower the costs. The primary goal is to create Artificial Intelligence based systems that can calculate the best flying path for a swarm of drones. Regardless of the maps or the amount of drones in the swarm, the goal of these result paths is to accomplish comprehensive coverage of a flight area for tasks like agricultural prospection.