

Abstract—The aerial robots represent an interested and rich area of research because they are very useful to perform complex tasks such as localization and tracking targets. To develop blimp system that is appropriate in diversity scenarios, an intelligent control with high autonomy degree is required. Therefore, we design blimp robot based on embedded system; then, we present several fuzzy sets models that should deal with autonomous, navigation and visual tracking problems. These models are empirically designed by combining the possibilities distributions theory with fuzzy logic. Thus, this paper addresses the problem of tracking robots in parallel with achieving the cooperative behavior based on computer vision system and artificial intelligent control to improve the efficiency of such system. In addition, considering use of wireless sensor networks for estimation multi-targets locations and the distances between them is presented.