Research Field And Department	Systems Engineering and Automation department - Robotics
Supervisor	José Carlos Castillo Montoya
Title of the Work	Development of skills to improve the interaction between social robots and the elderly

Abstract:

The acceptance of social robots by users depends to a large extent on the skills of the robot. These skills can be related to entertainment activities, assistance with everyday tasks, or exercises related to physical and cognitive stimulation. In the case of the social robotics laboratory, our goal is to improve the quality of life of the elderly. Therefore, our robots are specially designed for this segment of the population, both at hardware and software level. Currently, the laboratory has several robotic platforms where students can learn how robots work and their functionalities. Our software architecture is modular, which allows different components to interact at various levels, such as perception, human-robot interaction or decision-making. These components are the fundamental pillars of the robot software and are designed to achieve a natural and engaging interaction experience.

Main Tasks to Carry Out:

The tasks to be performed include, but are not limited to:

- Study of the state of the art in social robotics for the elderly, paying special attention to developments related to alleviating unwanted loneliness and the digital gap.

- Development of entertainment skills for the social robots in the laboratory. These skills will include perceptual mechanisms, such as computer vision or audio analysis.

- Development of new perception, interaction and decision making mechanisms for the laboratory's robots.

References/Bibliography if required