UNIVERSITÀ DEGLI STUDI DI SALERNO

**Dipartimento di Ingegneria dell'Informazione ed
Elettrica e Matematica Applicata**

Corso di Laurea Magistrale in Ingegneria Informatica

Cognitive Robotics

FINAL PROJECT

Social Pepper

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Problem Description

A brief introduction to the problem is deemed necessary to understand the context in which we are moving.

1. The Task

The task to be developed will be shown in summary.

2. The Environment

The technologies used to develop the problem are described below, including ROS[1] and the framework made available for integration with the Pepper system.

[1] ROS: The Robot Operating System is a set of libraries and tools to build a robot application.

Implemented architecture

Below is a detailed report on the implementation choices made and the description of the architecture applied to develop the solution to the problem posed.

1. Architecture Design

Below is the description of the proposed architecture developed to solve the given task.

Object Detector

In short, the choice of the object detector used to implement Pepper's object recognition mechanics will be explained.

1. EfficientDet D1

The chosen detector will be shown briefly and why it was the most convincing choice for the development of the task.