Introducción

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Introduction

According to the World Health Organization, a risk factor is defined as any trait or exposure of an individual that could increase the probability of suffering any disease or injury[@WHO2020]. Among different types of situations that can influence people's health, there are chemical risk factors[@LANDBERG2009]; biological risk factors[@SCARSELLI2010]; environmental risk factors[@WOJIC2012] and psychosocial risk factors. This las one, involves physical aspects of the environment, such as noise or temperature[@NATALETTI2008]; psychological aspects in people such as stress[@CALDERON2019] and burnout caused by high workloads or persistent excess in working hours[@FORASTIERI2013][@PEDDITZI2014].

Throughout the last 50 years, several psychosocial assessment methods have been created by medicine and psychology professionals, to allow quantitative and qualitative evaluation of psychosocial risk exposure. A psychosocial assessment is an evaluation of mental, physical, and emotional health[]. Usually, it takes the form of a series of questions and screening tools, covering many aspects of a person's life to get a picture of his or her mental state[]. With that information, professionals can draw recommendations about specific environmental issues or treatment plans[].

On the other hand, since the end of the '80s, Artificial Intelligence has been used for applications in industry, aeronautics, autonomous driving. As it is evolving, it has allowed the construction of many devices for producing and interpreting the text, recognize speech, and even generate entities such as eBay's virtual agents. Artificial intelligence sub-disciplines such as machine Learning provides algorithms tools to analyze data, as well as to design, train, and deploy models into applications, processes. However, machine learning algorithms and other artificial intelligence approaches are still under research in other areas such as wellbeing and psychosocial evaluations.

The main goal of the present project is to identify a potential contribution of artificial intelligence to psychosocial risk assessment, by performing a state of the art review of evaluation methods and current technological approaches to support them. This project will present implicit scenarios from questionaries, where some artificial intelligence disciplines such as computer vision and machine learning, can be applied to obtain additional information for better-informed assessments.

The present work is composed of seven sections, including the previous introduction. In section 2, we present the Psychosocial Risk Assessment (PRIA) advantages and limitations, as well as technological approaches that support some aspects of PRIA. In section 3, we show the problem statement by describing the keywords review about the gap between artificial intelligence and PRIA. Also, it states the motivation of the present work. Section 4 is devoted to the description of questionary items that have the potential of being measured by extracting data captured with surveillance cameras. Section 5 list a set of works oriented to recognize activities and emotions via single and multi-mode systems. Therefore, it will show techniques and methodologic references for the design and implementation of artificial-oriented architectures. Section 6 presents a brief review of motion-capture libraries that can be potential feature extraction components. In section 7, experimentation of selected libraries, using public video databases. Finally, we conclude the presented material in Section 8.