

PAGAN: Platform for Audiovisual General-purpose ANnotation

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Abstract—This paper presents an online platform, named PAGAN, for crowdsourcing affect annotations. The platform provides researchers with an easy-access solution for labelling any type of audiovisual content. The tool currently features an annotator interface, which offers three different time-continuous, dimensional annotation tools. PAGAN aims to serve as a free online platform for crowdsourcing large affective corpora—required from data-hungry machine learning methods for modelling affect—through a publicly available webpage, which is easy to share and use by participants.

Index Terms—Affective computing, human-computer interaction, affect annotation, crowdsourcing, video

I. INTRODUCTION

With the advances of machine learning techniques requiring growing amounts of data, collecting large volumes of reliable affect annotations is becoming an increasingly critical challenge in affective computing. Although contemporary tools for affect annotation exist, they often require installation or programming knowledge and can often run only under a researcher’s supervision. The PAGAN platform¹ aims to address issues as such by offering an easily accessible online platform, which can help researchers crowdsourcing and managing their audiovisual annotation tasks. PAGAN provides a highly customisable pipeline for setting up annotation projects with three different time-continuous annotation tools.

PAGAN focuses on *continuous* and primarily *dimensional* annotation. Dimensional frameworks on simple affective components such as arousal and valence [1] are preferred for the task of annotation as they minimise criterion biases of categorical frameworks (e.g. [2]). Although applications based on dimensional theories are unable to capture complex emotions without expert interpretation, this simplicity leads to a lower cognitive load and higher face validity during measurement. Unsurprisingly, many contemporary annotation tools [3]–[5] build on a dimensional understanding of emotions. The main benefit of continuous annotation tools compared to traditional methods (e.g. [6]) is their ability to capture temporal dynamics of the experience. While most contemporary tools [3], [4], [7] rely on a bounded signal to ensure a universal scale among raters for the benefit of a wide array of statistical and machine learning approaches, new ordinal affect annotation

¹<http://pagan.institutedigitalgames.com>



Fig. 1. RankTrace interface in the PAGAN platform. Annotating a conversation with Spike, an agent from the SEMAINE database [9].

techniques emphasise the relative nature of emotions [8] through unbounded labelling [5]. PAGAN includes discrete, absolute scale, and relative unbounded annotation techniques to cater to a wide variety of research needs.

II. SYSTEM OVERVIEW

PAGAN was designed to require no installation. The platform can run in any modern browser and only requires a desktop computer with a conventional keyboard. PAGAN consists of an annotator interface with associated tools and an administration dashboard, that are both described in this section.

A. Annotator Interface and Tools

PAGAN separates the annotator application and the administration interface to eliminate distractions during the annotation sessions. Upon navigating to the project link, the annotator is either greeted with a prompt to upload (or link) a video, or she is sent to the main application with a video already loaded for them. Here, the annotator is welcomed by a short text and description of the task, which they can start at their leisure. The annotator application is controlled by the *up* and *down* keys on the keyboard (Fig. 1). The session is repeated

