More than Meets the (Artificial) Eye: Exploring Historical Photographs from Ireland with Computer Vision Methods

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Historical photographs are value-laden artefacts. Viewed as a "certificate of presence" (Barthes 1993: 87) of people, places and events in time, they are complex and stratified objects (Sassoon 1998) to which a plethora of different meanings can be attached, depending on the observer. Digitisation adds to the complexity of these objects by requiring them to be re-evaluated in the context of a project, even though the capture in digital format partially strips them of their material properties and the change in context affects their relational values (Note, 2019).

Artificial Intelligence (AI) can help us enrich the intellectual properties we associate with digitised photographs by adding metadata, opening up new possibilities for item-level control and description. Computer Vision (CV), part of the AI methodologies that include "activities that identify human faces and objects in digital images" (Samoili et al. 2020:13), has influenced the way visuality is understood (Smits / Wevers 2022) and even contributes to the development of the field of "visual digital humanities", as identified by Münster and Terras (2020).

The emerging interest of memory institutions in adopting AI, mainly to facilitate the production and use of their digitised collections (Markus et al. 2021), is likely to lead to the outsourcing of expertise in dealing with AI systems. Professional training has only recently begun to support the development of advanced computational skills - as is happening in digital curation (Cushing / Kalpana 2019). Furthermore, to date, the various curatorial approaches rooted in the habitual (and born-analogue) working practices of memory institutions (Hughes 2011) have informed the use and production of digital standards and data models.

Is there a degree of conceptual and practical compatibility between existing curatorial practices in memory institutions and available CV workflows? This poster seeks to address this question by considering openly licensed digitised historical photographs from the Irish context. It presents initial findings from the first author's PhD project, which explores the implications of accessing and reusing digitised collections for CV tasks.

A subset of the Photographic National Folklore Collection resulting from the University College Dublin digitisation project[1] and some of the thematic photosets from the National Library of Ireland's Flickr profile[2] were retrieved and explored using data mining. Voxel51's FitfyOne[3] is the open source toolkit used to support the workflows and facilitate the curation and visualisation of the dataset - as well as evaluating the performance of the CV models and libraries in use.

The work is still in progress, but preliminary results suggest that the different archival descriptions provided for the collections analysed natively offer different ways of creating access points to the photographs. The occasional incompleteness of the metadata and the lack of information on the pre-digitisation evaluation process limit the interpretability of the photographic collections and therefore the potential CV applications.

Notes

1. https://www.duchas.ie
2. https://www.flickr.com/photos/47290943@N03/
3. https://voxel51.com/

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