

Enabling New Interactions with a Library's Digital Collections: Automatic Gender Recognition in Historical Postcards via Deep Learning

Abstract

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The Walter Havighurst Special Collections from University Archives & Preservation at Miami University's King Library has a growing collection of over 600,000 historical postcards, with approximately 30,000 digitized, primarily from the Midwest during 1890-1919. This collection supports various lines of inquiry from users, such as analyzing the evolution of gender portrayal in popular media in the United States. However, manually separating the collection into postcards of males and females would take thousands of hours, which prevents the library from supporting sociological analyses at scale. Using an open postcard dataset, we trained deep neural networks to automatically detect people and classify them as male or female. We showed that this approach can accurately detect and classify females and confidently detect and label males for the library's collection of historical postcards. By employing deep neural networks, the library can enhance its metadata within hours and support new sophisticated research inquiries at scale.