Generating Synthetic Styled Chú Nôm Characters

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Images of historical Vietnamese steles allow historians to discover invaluable information regarding the country's past, especially about the life of people in rural villages. Due to the sheer amount of available stone engravings and their diverseness, manual examination is difficult and time-consuming. Therefore, automatic document analysis methods could immensely facilitate this laborious work. In this thesis, we make use of machine learning models for unpaired image-to-image translation tasks to generate synthetic styled character images. Subsequently, we integrate those images into an existing character detection system in an attempt to improve its accuracy of locating Chu Nom characters on stele images. Qualitative results show that our synthetic generated characters are convincingly realistic. Quantitative evaluations demonstrate that the adaptation of computer-generated character images was not quite able to improve the detection system in its current state.

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