

PapyTwin net: a Twin network for Greek letters detection on ancient Papyri

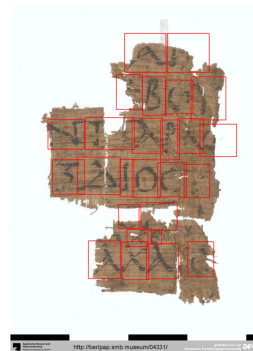
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Abstract: Ancient historical documents, such as Greek papyri, are crucial for understanding human knowledge and history. However, transcribing and translating these documents manually is a difficult and time-consuming process. As a result, an automatic algorithm is required to identify and interpret the writing on these ancient historical documents with accuracy and dependability. In this work, we introduce PapyTwin, a deep neural network which consists of two subnetworks, the first and second twin, that cooperate together to address the challenge of detecting Greek letters on ancient papyri. While the first twin network aims at uniforming the letter size across the images, the second twin network predicts letter bounding boxes based on these letter-uniformed images. Experiment results show that our proposing approach outperformed the baseline model by a large margin, suggesting that uniform letter size across images is a crucial factor in enhancing the performance of detection networks on ancient documents such as Greek papyri.



a) Image resolution: 8295 x 10171



b) Image resolution: 878 x 1237