

Research Similarity

Title	Similarity
An attention-based method for offline handwritten Urdu text recognition (ICFHR, 2020)(Anjum and Khan 2020) ¹	<ul style="list-style-type: none">• Urdu Language extraction, as well as we intend to localize language• This paper can act as our baseline for Urdu text extraction
A convolutional recursive deep architecture for unconstrained Urdu handwriting recognition (Neural Computing & application, 2021) ²	<ul style="list-style-type: none">• Urdu handwritten text extraction• FYP is about extracting bilingual text (Urdu and English)• Paper deals with the Urdu extraction part, which is a module in the Document text extraction.
A Computationally Efficient Pipeline Approach to Full Page Offline Handwritten Text Recognition (ICDARW, 2019) ³	<ul style="list-style-type: none">• We intend to extract text from a free form (full page) bilingual document (English and Urdu)• We also intend to work on a modular approach as proposed by this research paper
An online cursive handwritten medical words recognition system for busy doctors in developing countries for ensuring efficient healthcare service delivery (Scientific reports, 2022) ⁴	<ul style="list-style-type: none">• They work with handwritten, bilingual handwriting, which is precisely similar to our use case• Work in a similar demographic to ours, i-e, the authors use a developing country like Bangladesh for their case study
Multilingual handwritten numeral recognition using a robust deep network joint with transfer learning (Information Sciences (Elsevier),2021) (Fateh, et al. 2021) ⁵	<ul style="list-style-type: none">• Very similar to what we intend to do, with both a multilingual approach, as well as considering Urdu in their problem as well, but limited to digits
TrOCR: Transformer-based Optical Character Recognition with Pre-trained Models (Minghao Li, et al. 2021)	<ul style="list-style-type: none">• This is essentially the application of TrOCR, but we intend to work on the handwritten text for both English and Urdu
LayoutLM: Pre-training of Text and Layout for Document Image Understanding (ACM, 2019)(Yiheng Xu, et al. 2019)	<ul style="list-style-type: none">• Our research work also deals with entity extraction based on layout information, so there’s a relation of this work in our research.

GAP

- No work has been done for mainstream work on multilingual free-form document digitization
- No work has been done, especially for Urdu Documents
- Some work has been done for the multilingual document, but they don't cater to English and Urdu Language.