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DocPro: A Framework for Processing Semantic and Layout Information in Business Documents

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Abstract : With the recent advance of the deep neural network, we observe new applications of NLP (natural language processing) and CV (computer vision) powered by deep neural networks for processing business documents. However, creating a real-world document processing system needs to integrate several NLP and CV tasks, rather than treating them separately. There is a need to have a unified approach for processing documents containing textual and graphical elements with rich formats, diverse layout arrangement, and distinct semantics. In this paper, a framework that fulfills this unified approach is presented. The framework includes a representation model definition for holding the information generated by various tasks and specifications defining the coordination between these tasks. The framework is a blueprint for building a system that can process documents with rich formats, styles, and multiple types of elements. The flexible and lightweight design of the framework can help build a system for diverse business scenarios, such as contract monitoring and reviewing.

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