

**CLAIMS**

1. A computer-implemented method for use with a given table in a document, the method comprising:  
detecting a style of the given table using at least one style classification model;  
selecting, based at least in part on the detected style, a cell detection model appropriate for the detected style;  
detecting cells within the given table using the selected cell detection model; and  
outputting, to at least one user, information pertaining to the detected cells, the information comprising image coordinates of one or more bounding boxes associated with the detected cells;  
wherein the method is carried out by at least one computing device.
2. The computer-implemented method of claim 1, wherein the at least one style classification model comprises a deep neural network trained on multiple tables comprising multiple formatting attributes.
3. The computer-implemented method of claim 2, wherein the multiple formatting attributes comprise attributes pertaining to at least two of: graphical lines, highlighting, bolding, font size, font type, and italicizing.
4. The computer-implemented method of claim 1, wherein the selected cell detection model has been trained, using at least one deep neural network, on tables comprising at least one style similar to that of the given table.
5. The computer-implemented method of claim 1, wherein the selected cell detection model has been trained, using at least one deep neural network, on tables comprising multiple styles.
6. The computer-implemented method of claim 1, wherein said detecting the cells within the given table comprises using one or more optical character recognition techniques in conjunction with the selected cell detection model.
7. The computer-implemented method of claim 1, comprising:  
converting at least a portion of the one or more bounding boxes into a logical structure.
8. The computer-implemented method of claim 7, wherein said converting comprises aligning the at least a portion of the one or more bounding boxes to one or more text lines.
9. A computer program product comprising a computer readable storage medium having program instructions embodied therewith, the program instructions executable by a computing device to cause the computing device to:  
detect a style of a given table using at least one style classification model;

select, based at least in part on the detected style, a cell detection model appropriate for the detected style;

detect cells within the given table using the selected cell detection model; and

output, to at least one user, information pertaining to the detected cells, the information comprising image coordinates of one or more bounding boxes associated with the detected cells.

10. The computer program product of claim 9, wherein the at least one style classification model comprises a deep neural network trained on multiple tables comprising multiple formatting attributes.

11. The computer program product of claim 10, wherein the multiple formatting attributes comprise attributes pertaining to at least two of: graphical lines, highlighting, bolding, font size, font type, and italicizing.

12. The computer program product of claim 9, wherein the selected cell detection model has been trained using one or more of: (i) at least one deep neural network on tables comprising at least one style similar to that of the given table and (ii) at least one deep neural network on tables comprising multiple styles.

13. A system comprising:

a memory; and

at least one processor operably coupled to the memory and configured for:

detecting a style of a given table using at least one style classification model;

selecting, based at least in part on the detected style, a cell detection model appropriate for the detected style;

detecting cells within the given table using the selected cell detection model; and

outputting, to at least one user, information pertaining to the detected cells, the information comprising image coordinates of one or more bounding boxes associated with the detected cells.

14. The system of claim 13, wherein the at least one style classification model comprises a deep neural network trained on multiple tables comprising multiple formatting attributes.

15. The system of claim 14, wherein the multiple formatting attributes comprise attributes pertaining to at least two of: graphical lines, highlighting, bolding, font size, font type, and italicizing.

16. The system of claim 13, wherein the selected cell detection model has been trained using one or more of: (i) at least one deep neural network on tables comprising at least one style similar to that of the given table and (ii) at least one deep neural network on tables comprising multiple styles.

17. A computer-implemented method for, given coordinates of cells in a table, inferring row and column structure of the table, the method comprising:
- removing one or more cell boxes associated with the cells in the table that do not overlap with any text boxes associated with the table;
  - expanding one or more remaining cell boxes associated with the cells in the table until each of the one or more remaining cell boxes is expanded to a maximum horizontal width without overlapping with one or more of the other remaining cell boxes;
  - sampling at the center of each expanded cell box, horizontally and vertically, to determine the number of rows in the table and the number of columns in the table;
  - determining an alignment for rows and columns of the table based at least in part on the one or more remaining cell boxes prior to said expanding;
  - using at least one K-means clustering technique on the one or more remaining cell boxes based at least in part on the determined number of rows in the table and the determined number of columns in the table; and
  - assigning each of the one or more remaining cell boxes to a respective row and a respective column based at least in part on the determined alignment;
- wherein the method is carried out by at least one computing device.
18. The computer-implemented method of claim 17, comprising:
- expanding one or more cells into one or more neighboring empty cells upon a determination that portions of text of the one or more cells overlap into the one or more neighboring empty cells.
19. The computer-implemented method of claim 17, comprising:
- splitting one or more multi-text line cells upon a determination that there is at least one empty neighboring cell; and
  - re-assigning portions of corresponding text from the one or more split cells based at least in part on location of the corresponding text.
20. The computer-implemented method of claim 17, wherein said expanding the one or more remaining cell boxes associated with the table comprises expanding the one or more remaining cell boxes one at a time, and in a left-to-right and top-to-bottom order.