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(71) Applicant (for all designated States except US): **MICROSOFT CORPORATION** [US/US]; One Microsoft Way, Redmond, WA 98052-6399 (US).

(72) Inventors: **VIOLA, Paul A.**; One Microsoft Way, Redmond, WA 98052-6399 (US). **SHILMAN, Michael**; One Microsoft Way, Redmond, WA 98052-6399 (US).

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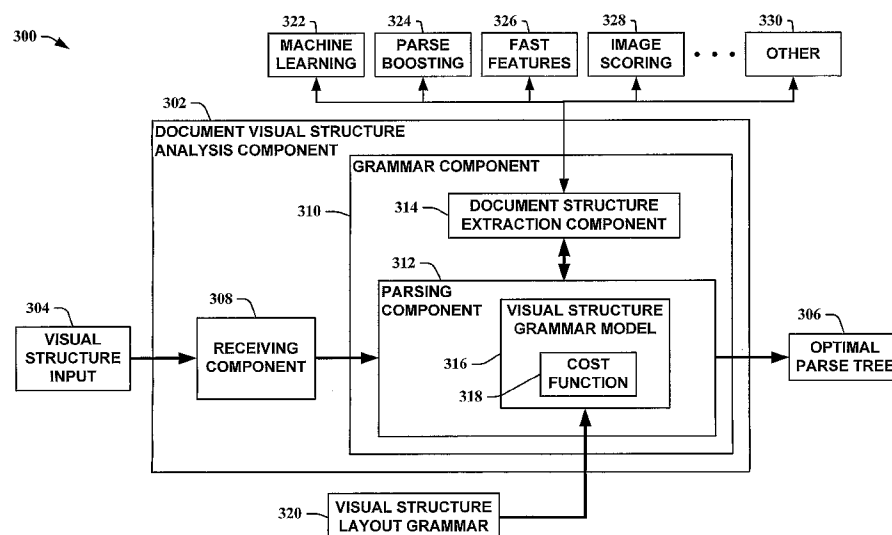
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(54) Title: GRAMMATICAL PARSING OF DOCUMENT VISUAL STRUCTURES



(57) Abstract: A two-dimensional representation of a document is leveraged to extract a hierarchical structure that facilitates recognition of the document. The visual structure is grammatically parsed utilizing two-dimensional adaptations of statistical parsing algorithms. This allows recognition of layout structures (e.g., columns, authors, titles, footnotes, etc.) and the like such that structural components of the document can be accurately interpreted. Additional techniques can also be employed to facilitate document layout recognition. For example, grammatical parsing techniques that utilize machine learning, parse scoring based on image representations, boosting techniques, and/or "fast features" and the like can be employed to facilitate in document recognition.

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