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Principal Architect (CTO Office, Icertis) | PhD in Geometric Modeling | Google Devel...
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US patent granted!!

"Representing documents using document keys"

Documents are made up of paragraphs, which in-turn are made up of sentences, which in-turn are made up of words. That's the usual representation of documents.

More abstract way could be that documents are made of themes or concepts or topics, such that a document is, say, 40% politics, 30% sports and 30% entertainment.

Following patent is about representing a contract document by a sequence of clause categories, say ['preamble', 'recitals', 'term', ..., 'signature']. Almost like a genome sequence, only difference is instead of letters A, T, C, G, the contract document is made up of sequence of clause categories-symbols.

This terse representation is effective in various downstream machine learning based natural language processing workflows such as document similarity, contract type classification, etc.

Well, my first patent!!

Thanks and congratulations to [Icertis](#) and co-inventors [Monish Darda](#) [Dr. Ravi Kothari](#) [Sunu Engineer](#) [Amitabh Jain](#)

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US011361034B1

(12) **United States Patent**
Kulkarni et al.

(10) **Patent No.:** **US 11,361,034 B1**
(45) **Date of Patent:** **Jun. 14, 2022**

(54) **REPRESENTING DOCUMENTS USING
DOCUMENT KEYS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **17/538,852**

(22) Filed: **Nov. 30, 2021**

(51) **Int. CL**
G06F 16/93 (2019.01)

(52) **U.S. CL**
CPC **G06F 16/93** (2019.01)

(58) **Field of Classification Search**
CPC **G06F 16/93**; **G06N 20/00**
See application file for complete search history.

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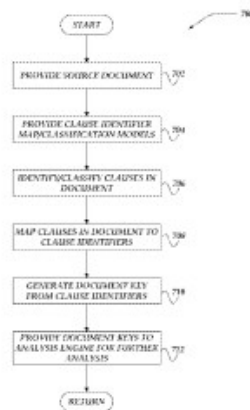
Primary Examiner — Hau H Hoang

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(57) **ABSTRACT**

Embodiments are directed to representing documents using document keys. Documents that include one or more clauses may be provided. Each clause type for the one or more clauses in documents may be determined based on one or more classification models. One or more clause identifiers may be associated with the one or more clauses based on one or more clause types of each clause. A document key may be generated for each document based on an ordered collection of the one or more clauses included in each document such that each clause identifier may be positioned in the document key based on an order of its location in a corresponding clause of a document. The documents may be analyzed based on comparisons of one or more document keys corresponding to the documents. One or more reports may be generated based on one or more results of the analysis.

26 Claims, 9 Drawing Sheets



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GTM360 Marketing Solutions - Founder CEO; Oracle - ex Head of Business Development; Author Amazon Bestseller List Book

Whoa! Congrats!!

On a side note, is this specific to Contracts or broadly applicable to all types of Documents e.g. Marketing Collateral where the coding is by FOG Index, Fake It Till You Make It, Feature, Benefit, etc.

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[Yogesh Kulkarni](#) TY.

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Udayan Kanade • 1st

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CEO, Oneirix Labs

[Yogesh Kulkarni](#), thanks for the detailed write-up. It was a pleasure to read. Congratulations on the patent grant.

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Ravishankar Rao Vallabhajosyula • 1st

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Head of Data Science at Impetus Technologies Ltd

Congratulations [Yogesh Kulkarni](#)

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Hearty Congratulations!!! [Yogesh Kulkarni](#), a great achievement. Wishing you many more 😊

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That's a great achievement and really inspiring [Yogesh Kulkarni](#), congratulations!

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[Yogesh Kulkarni](#) wonderful to see this. Congratulations to the team.

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Decades of experience renews energy to learn anew! Am a science graduate, jack of all but master of none!

Congratulations [Yogesh Kulkarni](#)
Hats off to all involved .

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Pooja Bansod • 1st

Talent Acquisition Manager

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Congratulations [Yogesh!!!](#)

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MLAI | NLP | Researcher | Data Science Leader

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This is very useful. Great work [Yogesh Kulkarni](#) !

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