



Retrieval-Augmented Generation with Vectara Semantic Search

LEGAL LIT

Legal Insight through Technology Transformation



Vectara Upload File

Inputs

Connect Credential *
LITT QueryService & I...

File *
US Patent Example.pdf

Upload File

Additional Parameters

Output

Vectara Retriever

ChatOpenAI

Inputs

Cache

Connect Credential *
OpenAI API

Model Name
gpt-3.5-turbo

Temperature
0.9

Additional Parameters

Output

ChatOpenAI

Conversational Retrieval QA Chain

Inputs

Language Model *

Vector Store Retriever *

Memory ⓘ

Return Source Documents

Additional Parameters

Output

ConversationalRetrievalQAChain

AI: Hi there! How can I help?

Me: Research and summarize the recent case law regarding this utility patent in the United States.

AI: In recent years, there have been several notable cases in the United States that have shaped the landscape of utility patents. One significant case is Alice Corp. v. CLS Bank International, which was decided by the Supreme Court in 2014. In this case, the Court clarified the standard for patent eligibility under 35 U.S.C. § 101 for software-related inventions. The Court held that mere implementation of an abstract idea on a generic computer is not sufficient to transform it into a patent-eligible invention. This decision has had a significant impact on the patentability of software and business method

Type your question...



US009871431B2

(10) **Patent No.:** US 9,871,431 B2
 (45) **Date of Patent:** Jan. 16, 2018

(58) **Field of Classification Search**
 CPC H02N 11/00; H02K 16/00
 USPC 310/46, 44, 115, 184, 156.34
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2013/0257208 A1 * 10/2013 Samuels H02K 1/223 310/115

FOREIGN PATENT DOCUMENTS

FR 2463992 A1 2/1981
 RU 2155435 C1 * 8/2000

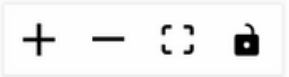
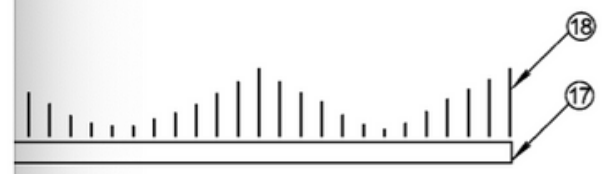
OTHER PUBLICATIONS

Written Opinion of the International Searching Authority dated Jan. 29, 2015 for corresponding application PCT/US 2014/053612. International Search Report mailed with Written Opinion (#1) for corresponding application PCT/US 2014/053612.

* cited by examiner
 Primary Examiner — Jose Gonzalez Quinones
 (74) Attorney, Agent, or Firm — Daniel S. Polley, P.A.

(57) **ABSTRACT**
 A spintronic generator that provides electrical power with the motive force of natural electron spin. The utilization of natural electron spin can be enhanced with carefully matched materials, weights, and magnetic waveforms which provide precise pulsed frequencies in resonance with the materials. This resonance of the magnetic pulses provides clean abundant power. A utilization of the Zero Point Energy results in a local environment temperature drop which can be one of the sources of motive force. The harvesting of electricity can be in standard induction pick up coils controlled by direct current motor controllers using an LRC tank circuit.

36 Claims, 4 Drawing Sheets



Legal Insight through Technology Transformation



Cooperative Patent Classification Codes Meaning For the US Patent competition.

<https://www.kaggle.com/datasets/xhlulu/cpc-codes>



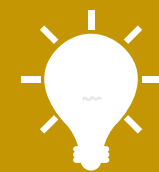
Google Patents Public Data Worldwide bibliographic and US patent publications

<https://www.kaggle.com/datasets/bigquery/patents>



Google Patents Research Data Data analysis work used in Google Patents (BigQuery).

<https://www.kaggle.com/datasets/bigquery/google-patents-research>



Intellectual Property Investigations by the USITC Section 337 investigations on intellectual property infringement (BigQuery).

<https://www.kaggle.com/datasets/bigquery/usitc-investigations>

LEGAL USE CASE



1

SEAMLESS DOCUMENT INPUT:

Easily upload your legal document by simply dragging and dropping it into the browser. Our intuitive interface makes it effortless to input your claims, saving you time and effort. Customize phrases, update specifications, and explore other features for an enhanced user experience.

2

ONE-CLICK SPEC FIGURES GEN:

With a single click, LITT's VECTARA application generates the complete specification and accompanying figures for your patent application. Say goodbye to manual drafting and let our intelligent system handle it for you.

3

EFFORTLESS EXPORT COLLABORATION:

Export your draft into Word and PPT formats with ease. Collaborate seamlessly with colleagues and stakeholders using familiar tools, ensuring efficient communication and collaboration throughout the patent drafting process.

4

COMPREHENSIVE GENERATION:

LITT application generates detailed flowcharts for methods, block diagrams for systems and devices, and provides thorough descriptions of the generated figures. This comprehensive approach ensures that all necessary elements are included to support your patent claims.

5

CUSTOMIZATION AND ENHANCED CONTROL:

Prompts to match preferences and instantly see the specification. Future features like customizing prompts, uploading illustrations, figure labels, toggling between simple and verbose flowcharts, and adjusting figure text truncation. Access helpful tips and tutorials for a smooth user experience.

PROBLEMS WITH PATENTS

BETTER PATENTS

Improve accuracy by reducing errors caused by manual entry. Minor inconsistencies can lead to costly litigation- minimizing trivial errors, increasing technical accuracy and focusing on the patent application quality reducing poor patent decisions in the absence of patent analytics.

FASTER FIRST TO FILE PATENTS

Perform complex tasks in a fraction of time. Can take significant time and money for patent drafts to be drafted and reviewed prior to filing. patent applications and analyze them in minutes. AI makes faster to track the innovation cycle from ideas through patents.

CHEAPER PATENTS

Avoid costly mistakes down the line with filing patents. Cost-effective reviews of their patent applications and analyze them in minutes. Time-savings and improved accuracy translate to direct savings and increasing accessibility of patents in the process.

Configuration

Choose a PDF file

Drag and drop file here

Limit 200MB per file • PDF

Browse files



US Patent Example.pdf



0.8MB

Vectara Customer ID

1464317742

Vectara API Key

zwt_V0e3Lnd69fUbYtEwX6bzTGdW7SRe

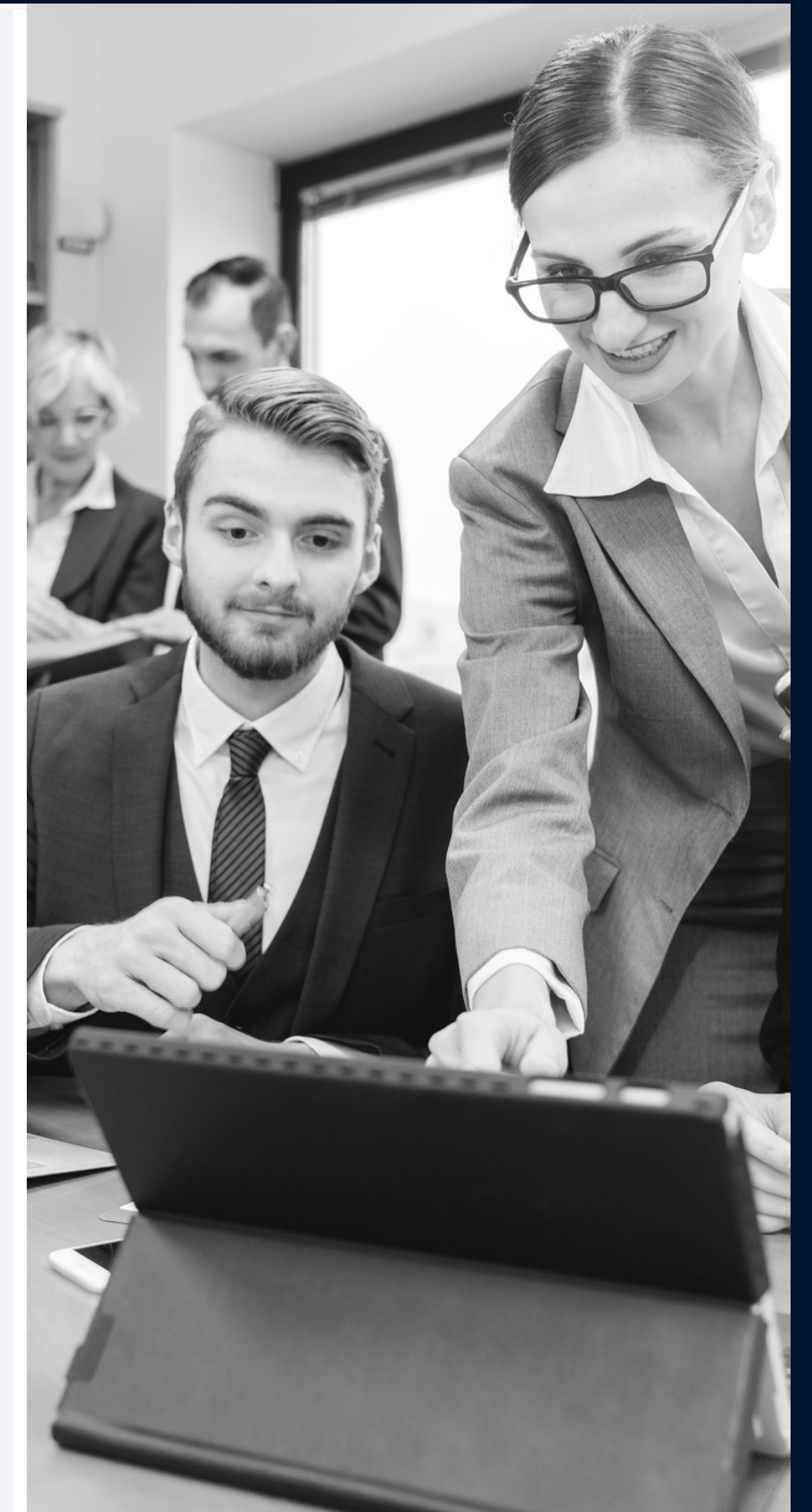
Vectara Corpus ID

2

OpenAI API Key

sk-SCqpYfJ8ghdQKJoqEDVQT3BlbkFJ4q

Submit



GENERATE TEXT BASED ON PATENT CLAIMS

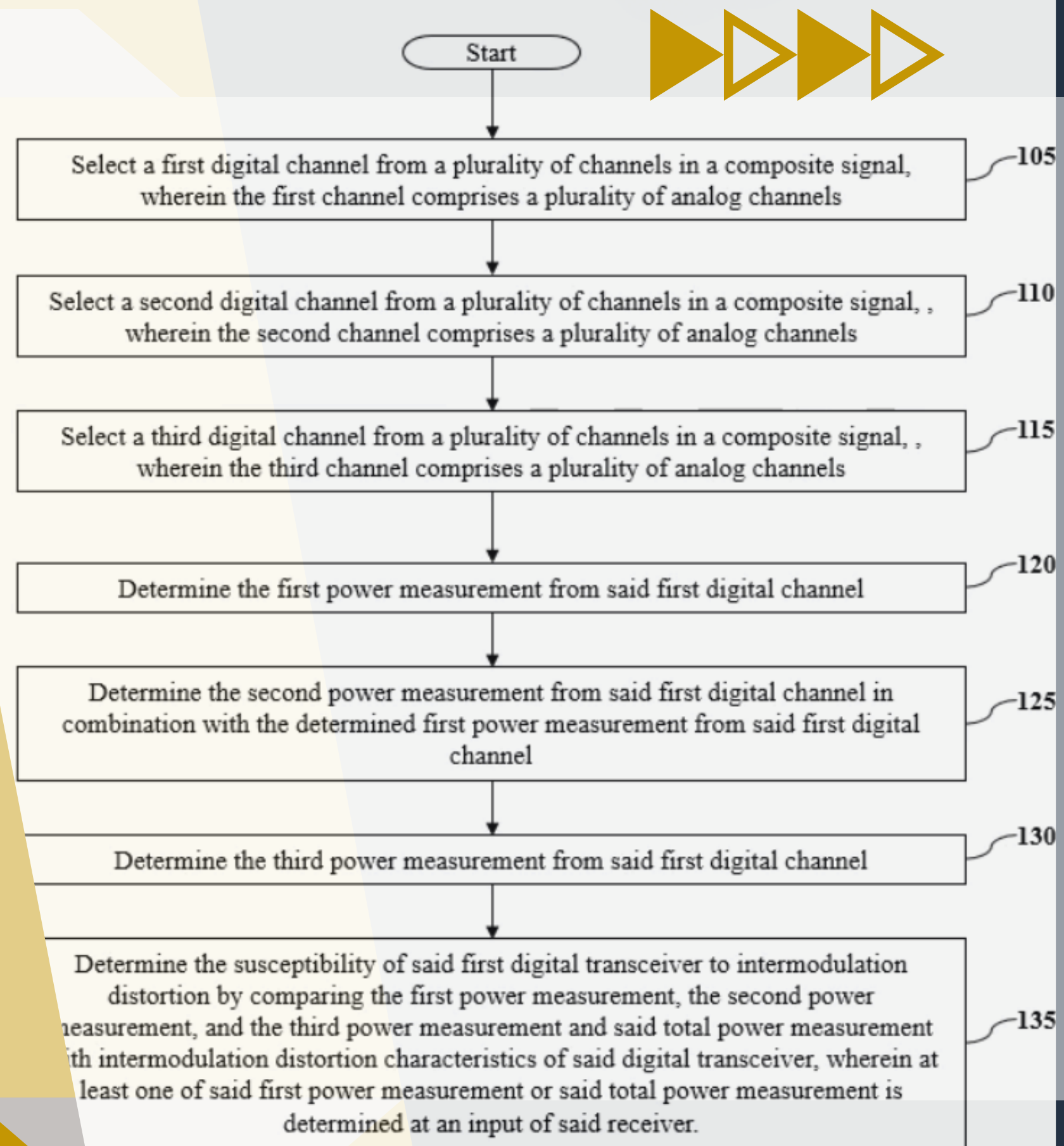
Fine-tuned on patent datasets: The platform utilized pre-trained models as a foundation and then fine-tuned them on patent-specific datasets obtained from Kaggle, ensuring they understand the intricacies of patent law language. Additionally, advanced data analysis techniques were implemented to extract meaningful insights from patent documents, enabling intelligent decision-making in the litigation process.

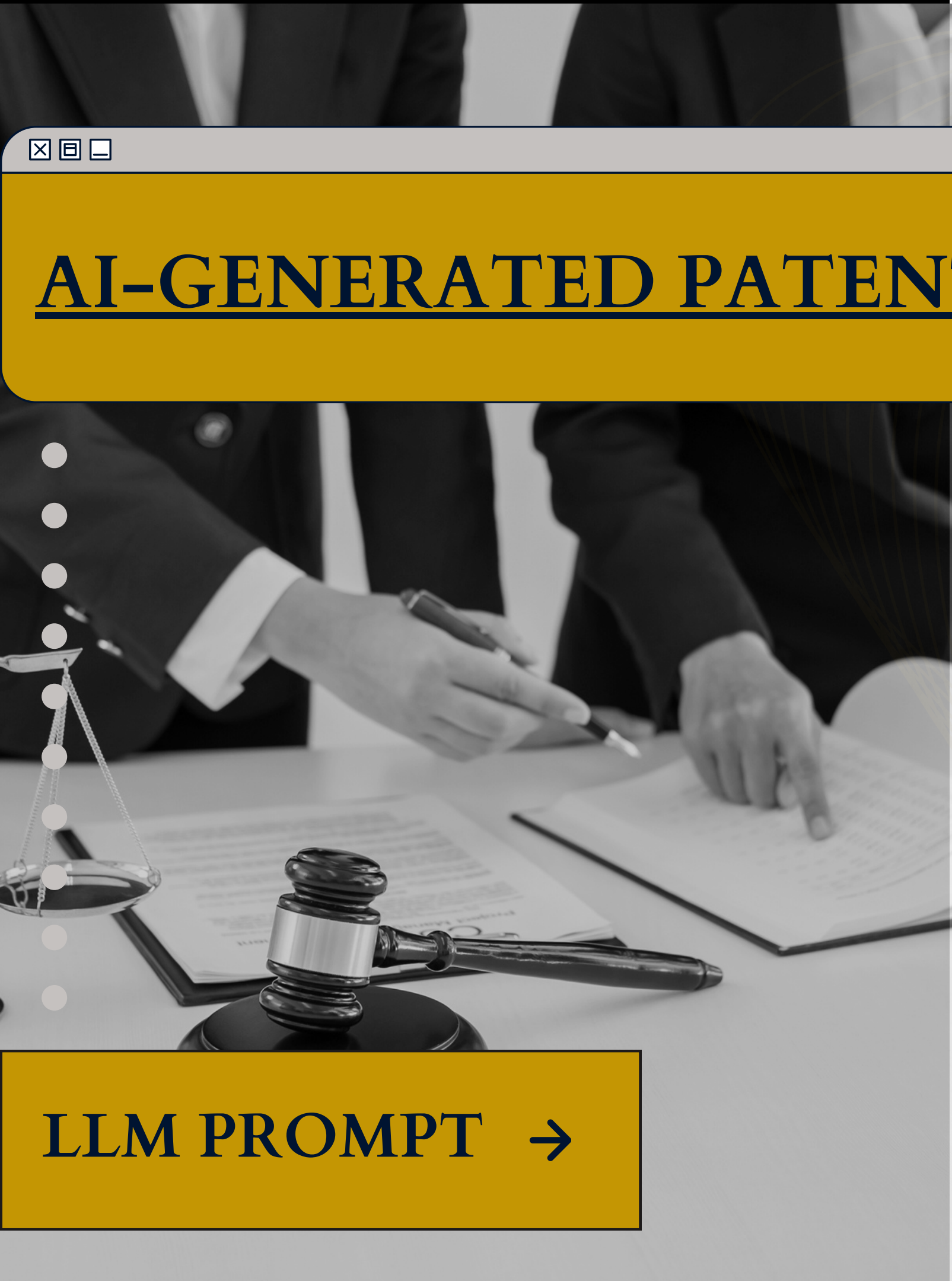
The integration of emerging LLM models and the utilization of additional open-source legal datasets will further enhance the platform's performance and accuracy in handling patent-related legal tasks. Additionally, addressing the nuances of patent law and legal terminology within the context of a language model posed its own set of challenges.



NATURAL LANGUAGE PROCESSING IN THE LEGAL DOMAIN: TEXT CORPUS

Leverage the power of Large Language Model Vectara to automate and streamline the patent litigation workflow by automating text generation in your patent applications. The platform aims to save time, reduce costs, and improve the overall effectiveness of patent litigation processes built by integrating cutting-edge technologies such as Vectara, a large language model, with patent-specific datasets obtained from Kaggle.





AI-GENERATED PATENTS

LLM PROMPT →

● PRIOR ART SEARCH:

LITT can help researchers and patent attorneys identify relevant prior art by searching through large volumes of patent databases and scientific literature.

● PATENT DRAFTING:

LITT can generate drafts for patent applications by providing suggestions and assisting with the description, claims, and technical details.

● PATENT ANALYSIS:

It can analyze patent claims, specifications, and related documents to extract relevant information, identify potential infringements, and assist with patent litigation strategies.

● CLASSIFICATION / CATEGORIZATION:

LITT can assist in classifying patents into relevant categories based on their subject matter, which aids in organizing and searching patent databases.

PROBLEM: HALLECCINATIONS

Measuring Hallucinations in RAG Systems

Vectara launches open-source Hallucination Evaluation Model (HEM) that provides a FICO-like score for grading how often a generative LLM hallucinates in Retrieval Augmented Generation (RAG) systems.

Hallucinations come in many forms that could negatively affect a business:

- Large errors where, instead of answering an end-user question, the generative model goes completely off the rails and potentially causes reputational damage.
- The generative system draws on its body of knowledge and produces copyrighted works in its output.
- More nuanced and harder to spot errors where the model takes liberties in its response, for example, by introducing “facts” that are not based in reality.
- The introduction of specific biases due to the training data.

```
import { Vectara } from "vectara";
import config from "./vectara_config.json";
const vectara = new Vectara(config) ;

const askReviews = async (question) => {
  const {
    summary,
    references,
    suggestedQuestions
  } = await vectara.query ({ question } ) ;
};
```

🗨️ Is it noisy at 698 Candlewood Lane?

No, it isn't noisy. Guest reviews mention:

1. There's not much traffic in the area. — **Naomi**
2. The house has sound-proof windows. — **Dulce2, Francis**
3. Having enjoyed mediating in the garden. — **Sam**

6 references



How far from town is it?

How many beds are there?

Do they have early check-in?

HALLUCINATION LEADERBOARD : FICO SCORE FOR HALLUCINATIONS IN RAG SYSTEMS.

1. The “Answer Rate” on the right is how often the model attempted to summarize the results in response to the question. Sometimes, models incorrectly surmise that they do not have enough information from the retrieved results to summarize the question.
2. The “Accuracy” and “Hallucination Rate” numbers are the inverse of one another: the Hallucination Rate is what percentage of summaries included some hallucination, and then the Accuracy is 100% less that number. Details of exactly how these hallucinations were evaluated can be found in the [technical blog post](#).
3. The “Average Summary Length” is how many words the summaries were. We include this because if you’re looking for concise summaries, you may look to optimize for this number as well and consider it as a tradeoff.

Reduce Hallucinations 🌀 with Retrieval Augmentation

Ask a question about the collapse of the Silicon Valley Bank (SVB).

Who is responsible for SVB collapse?

Run

36/200

Answer Type:

Retrieval augmented (static news dataset)

Retrieval augmented with web search

Answer with plain GPT

The exact cause of the collapse of SVB is not definitively known, but the two main factors that are generally believed to be responsible are poor management decisions and a lack of oversight by regulators.

Example questions

Did SVB collapse?

Why did SVB collapse?

What does SVB failure mean for our economy?

Who is responsible for SVB collapse?

When did SVB collapse?

Model	Answer Rate	Accuracy	Hallucination Rate	Average Summary Length
GPT4	100%	97.0%	3.0%	81.1 words
GPT3.5	99.6%	96.5%	3.5%	84.1 words
Llama 2 70B	99.9%	94.9%	5.1%	84.9 words
Llama 2 7B	99.6%	94.4%	5.6%	119.9 words
Llama 2 13B	99.8%	94.1%	5.9%	82.1 words
Cohere-Chat	98.0%	92.5%	7.5%	74.4 words
Cohere	99.8%	91.5%	8.5%	59.8 words
Anthropic Claude 2	99.3%	91.5%	8.5%	87.5 words
Mistral 7B	98.7%	90.6%	9.4%	96.1 words
Google Palm	92.4%	87.9%	12.1%	36.2 words
Google Palm-Chat	88.8%	72.8%	27.2%	221.1 words

Generate text based on patent claims with RAG and grounded generation to eliminate hallucinations with a text corpus from Google Patents.

Vectara Retrieval Augmented System

Index a Document

Choose a document



Drag and drop file here

Limit 200MB per file • TXT, PDF, DOC, DOCX, PPT, PPTX, XLS, XLSX

Browse files

File Title

Document Title

Index Document

Search the Corpus

Enter your query

Number of Results



Summary Model

vectara-summary-ext-v1.3.0

Response Language

DISCLAIMER: LLMS CANNOT BE GIVING LEGAL ADVICE AS LAWYERS



RETRIEVAL AUGMENTED GENERATION (RAG)



Powered by the advanced language understanding capabilities of Vectara, to perform computationally intensive tasks with optimal speed and efficiency and process and analyze patent-related documents, including patent claims, legal texts, and prior art references.

- Multiple languages
- Construct a legal question-answering pipeline
- Flow Chart Descriptions
- Summary of legal content
- Vectors capture the semantic meaning of the words or phrases,

1. User provides data to make searchable
2. System indexes data
3. User enters query
4. Relevant facts from only this user's data are retrieved
5. Relevant facts are summarized into a response & returned alongside the facts

PROMPTS TO ENTER INTO VECTARA FOR PATENT CLASSIFICATION AND CATEGORIZATION

Large Language Models (LLMs) like Vectara can be used for patent classification and categorization by leveraging their language processing capabilities and access to vast amounts of patent data. Here's how LLMs can assist in this task:

"Suggest patent classifications related to self driving cars and artificial intelligence."

"Provide a summary of patent categories relevant to renewable energy technologies."

"Recommend patent classes in the field of biotechnology related to gene editing techniques."

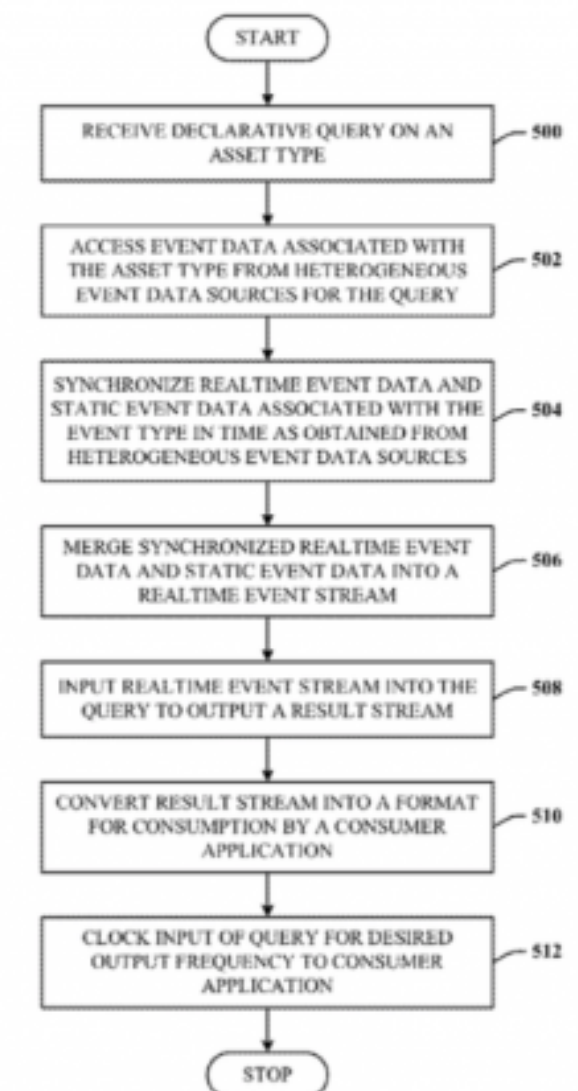
"Assist in identifying potential subclasses for a patent related to blockchain technology and smart contracts."

(19) **United States**
(12) **Patent Application Publication** (10) **Pub. No.: US 2020**
Schindlauer et al. (43) **Pub. Date:**

(54) **DYNAMIC ASSET MONITORING AND MANAGEMENT USING A CONTINUOUS EVENT PROCESSING PLATFORM**
(71) Applicant: **Microsoft Technology Licensing, LLC**, Redmond, WA (US)
(72) Inventors: **Roman Schindlauer**, Seattle, WA (US); **Balan Sethu Raman**, Redmond, WA (US); **Torsten W. Grabs**, Seattle, WA (US); **Beysim Sezgin**, Redmond, WA (US)
(21) Appl. No.: **16/548,515**
(22) Filed: **Aug. 22, 2019**

Publication Classification
(51) **Int. Cl.**
G06F 16/245 (2006.01)
G06F 16/25 (2006.01)
G06F 16/2455 (2006.01)
(52) **U.S. Cl.**
CPC *G06F 16/245* (2019.01); *G06F 16/2455* (2019.01); *G06F 16/245* (2019.01); *G06F 16/2455* (2019.01)
ABSTRACT
The disclosed architecture leverages event processing (CEP) to address an interface framework to import a dynamic (e.g., assets), and using a declarative model to implement monitoring and management at an asset level. This is in contrast to traditional single values from static databases and as is common conventionally. The architecture data model to model assets as real-time queries can be formulated per asset and stream. The architecture uses the query to formulate asset management and standing, declarative queries, and uses a CEP platform to correlate data from different with different dynamic properties.

Related U.S. Application Data
(63) Continuation of application No. 14/636,437, filed on Mar. 3, 2015, now Pat. No. 10,409,809, which is a continuation of application No. 12/826,689, filed on Jun. 30, 2010, now Pat. No. 8,977,643.



TEXT-BASED GENAI WITH RAG CAN CREATE NEW VALUE.

FINE-TUNED ON PATENT PROMPT

Ensuring the accuracy and reliability of analysis and prediction algorithms, and addressing the unique legal terminology and nuances of patent law. Vectara can assist in analyzing and extracting information from diverse sources, including technical publications and patent databases. By integrating with data processing platforms like Databricks, LITT can handle the large-scale data retrieval and analysis required for comprehensive prior art searches, thereby improving the efficiency and accuracy of the search process. Integrating LLMs like Vectara required careful fine-tuning and adaptation to the specific requirements of patent litigation, including training on patent-specific datasets and fine-tuning hyperparameters to optimize performance.

APPLICATION OF RAG WITH VECTARA

PROMPTS FOR LITT LARGE LANGUAGE MODEL:

"Given the facts of the case, provide an analysis of potential legal issues and arguments that could arise."

"Generate a draft motion for summary judgment based on the provided facts and legal framework."

"Assist in writing a persuasive legal brief arguing for the validity of a patent."

"Summarize the key legal principles and precedents relevant to a trademark infringement case."

"Generate a response letter to a cease and desist letter alleging copyright infringement, outlining potential defenses and legal counterarguments."

PROMPTS FOR "PATENT LEGAL STANDARDS":

"Explain the legal requirements for patent eligibility in the context of software inventions."

"Provide an overview of the legal standards for assessing non-obviousness in patent law."

"Summarize the legal criteria for determining infringement of a design patent."

"Discuss the legal standards applied to claim construction in patent litigation."



Retrieval-Augmented Generation with Vectara Semantic Search

LEGAL LIT

Legal Insight through Technology Transformation



Data Collection:

Gather a comprehensive text corpus from Google Patents, including patent claims, descriptions, and other relevant patent-related text. Ensure the data is structured and well-organized for efficient access.

Preprocessing:

Clean and preprocess the text corpus to remove noise, irrelevant information, and ensure uniform formatting.

Retrieval-Augmented Generation (RAG):

Implement RAG, which combines a pre-trained language model with a retrieval mechanism. The retrieval component can use the structured corpus data to find relevant information related to a specific patent claim.

Training and Fine-Tuning:

Fine-tune your language model to generate patent-related text. This fine-tuning process should incorporate grounding techniques that emphasize accuracy and consistency with the corpus data.

Grounded Generation:

Develop a system that integrates the RAG model with the corpus data. When generating text based on patent claims, it should cross-reference the claim with the corpus to ensure that the generated content aligns with factual information.

Fact-Checking:

Implement fact-checking mechanisms to validate the accuracy of the generated text. If the generated content contradicts the corpus data, the system should flag or modify it.

Iterative Improvement:

Continuously refine the system by collecting feedback from users and adjusting the grounding and fact-checking processes. This iterative approach will help eliminate hallucinations and improve the reliability of generated text.

By following this approach, you can create a system that generates text based on patent claims with reduced hallucinations and improved accuracy by grounding the content in a trustworthy corpus from Google Patents. This can be a valuable tool for patent professionals and researchers who rely on accurate and reliable patent-related information.



US009871431B2

(10) Patent No.: US 9,871,431 B2
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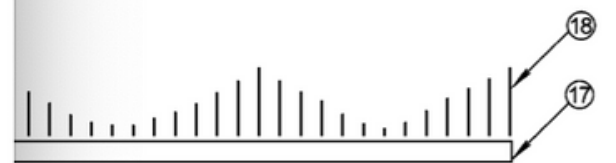
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Primary Examiner — Jose Gonzalez Quinones
(74) Attorney, Agent, or Firm — Daniel S. Polley, P.A.

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36 Claims, 4 Drawing Sheets



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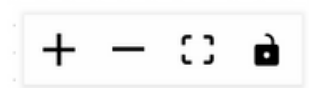
ConversationalRetrievalQAChain

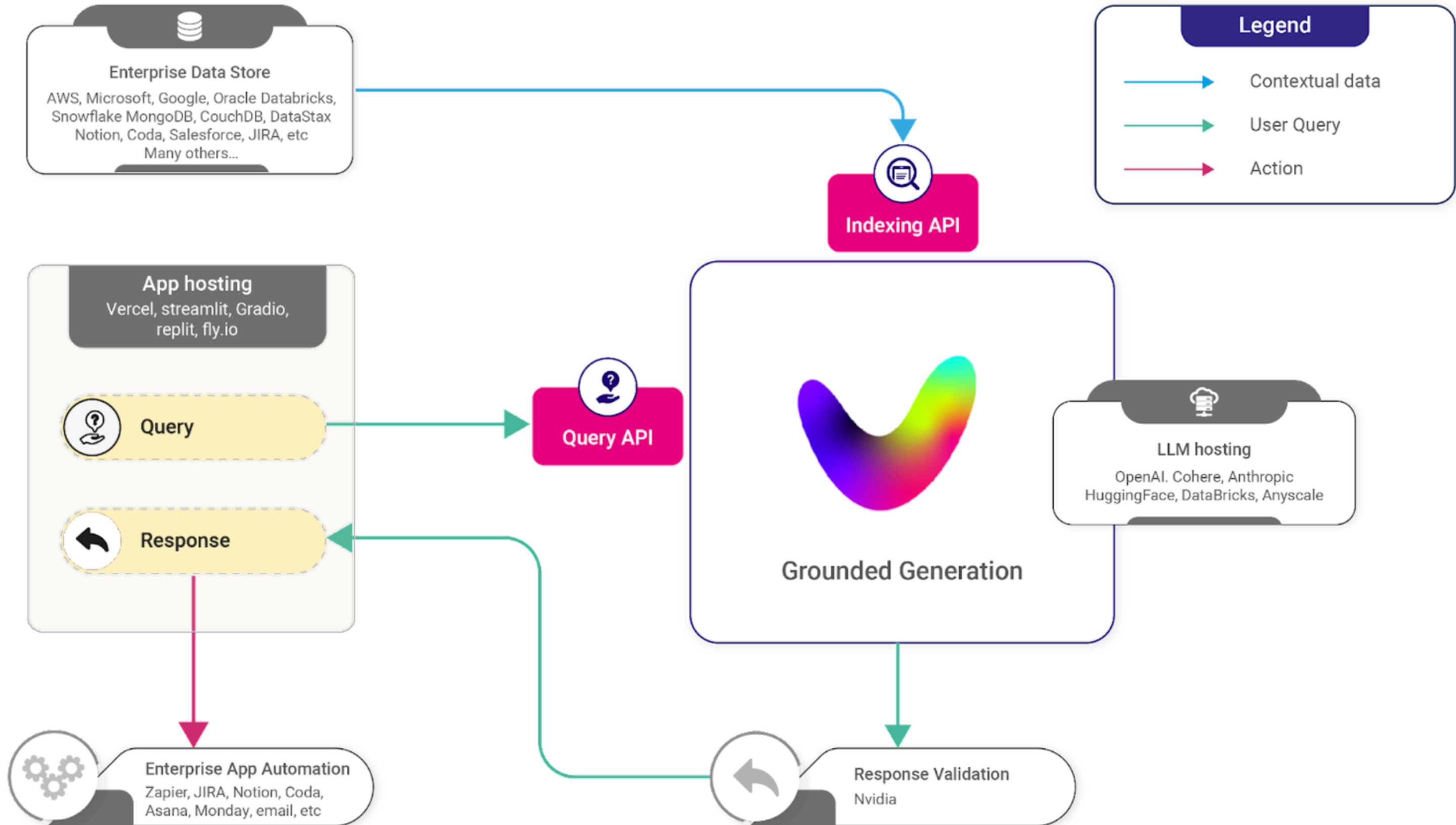
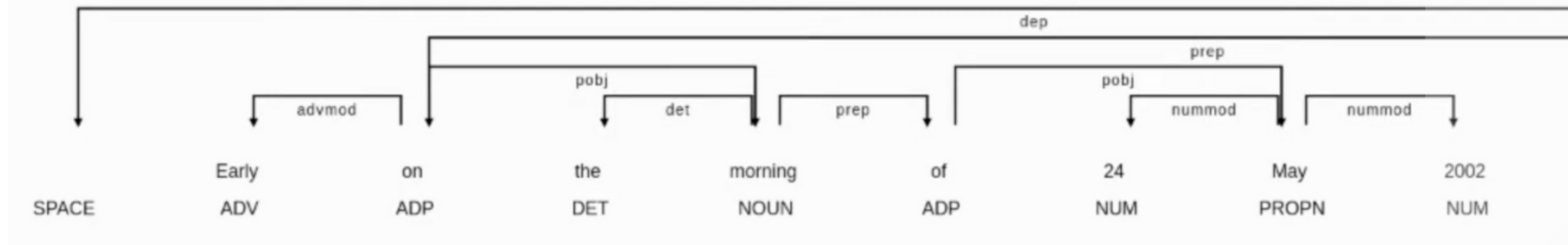
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Type your question...





To solve this riddle, you can follow these steps:

1. Divide the 12 coins into 3 groups: Group A with 4 coins, Group B with 4 coins, and Group C with 4 coins.
2. First weighing: Compare the weight of Group A and Group B on the balance scale.
 - a. If the scale is balanced, it means the counterfeit coin is in Group C.
 - b. If the scale is not balanced, the heavier side indicates that the counterfeit coin is heavier, and the lighter side indicates that the counterfeit coin is lighter. The counterfeit coin is in the heavier or lighter group (Group A or B, whichever is unbalanced).
3. Now we know which group the counterfeit coin is in (let's

PROMPT1-> CHART1

"Recommend patent classes for a patent application in the field of biotechnology related to gene editing techniques."

Title: Air Purifier Utilizing Axolotlite Mineral for Enhanced Air Filtration and Purification

TECHNICAL FIELD

The present invention relates generally to air purification devices, and more specifically, to an air purifier using a newly developed mineral, Axolotlite, for improved air filtration and purification performance.

BACKGROUND

Air pollution is a growing concern in both urban and rural areas worldwide. Airborne contaminants, such as allergens, bacteria, viruses, and volatile organic compounds (VOCs), can have detrimental effects on human health and well-being. Conventional air purifiers often employ HEPA filters, activated carbon, or other filtration technologies to reduce airborne pollutants. However, these technologies have limitations in their ability to

2 PROMPT EXAMPLES: PATENT CLAIM-CHART GENERATION



IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

BILLY SMITH,)
Plaintiff,)
) Case No. 1:23-cv-01234-JJ
v.)
)
RISKCORP, INC.,)
Defendant.)

MOTION TO DISMISS

COMES NOW, the Defendant, RiskCorp, Inc., by and through its undersigned attorney, Tom Thumb, and pursuant to Federal Rule of Civil Procedure 12(b)(6), respectfully moves this Court to dismiss the Complaint filed by Plaintiff Billy Smith for failure to state a claim upon which relief can be granted. In support of this Motion, Defendant states as follows:

1. Plaintiff's Complaint alleges negligence on the part of Defendant arising from a slip and fall incident that occurred on December 15, 2022, at the headquarters of RiskCorp. Plaintiff claims that he slipped on a puddle of water, which RiskCorp allegedly failed to clean up in a reasonable time.
2. Under Colorado law, a plaintiff must establish the following elements to successfully plead a claim for negligence: (1) the existence of a legal duty owed by the defendant to

PROMPT2-> CHART2

"Provide a summary of patent categories and subclasses relevant to renewable energy technologies."

The correct answer is D. not admissible, because the juror's testimony about honesty during voir dire is an inquiry into the validity of the verdict not subject to any exception.

Explanation:

Federal Rule of Evidence 606(b) prohibits jurors from testifying about any statement made or incident that occurred during the

Prompt: "Recommend patent classes for a patent application in the field of biotechnology related to gene editing techniques."

Generated Text:

Based on the provided prompt, here are some recommended patent classes for a patent application in the field of biotechnology related to gene editing techniques:

- Class 435: Chemistry: Molecular Biology and Microbiology – This class encompasses patents related to the isolation, identification, and manipulation of genes and DNA molecules, including gene editing techniques.
- Class 536: Organic Compounds – This class includes patents related to specific organic compounds used in gene editing processes, such as nucleic acids, proteins, and enzymes.
- Class 800: Multicellular Living Organisms and Unmodified Parts Thereof and Related Processes – This class covers patents related to genetically modified organisms, including those created through gene editing technologies.
- Class 987: Recombinant DNA Technology – This class includes patents related to the manipulation and modification of DNA sequences using recombinant DNA techniques, which are often used in gene editing processes.
- Class 530: Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof – This class encompasses patents related to peptides, proteins, and other biomolecules involved in gene editing techniques, such as CRISPR–Cas systems.



Class 435



Class 536



Class 800



Class 987



Class 530

Prompt: "Recommend patent classes for a patent application in the field of biotechnology related to gene editing techniques."

Claim Chart Generation :

1.

CLASS 435:



Chemistry: Molecular Biology and Microbiology - This class encompasses patents related to the isolation, identification, and manipulation of genes and DNA molecules, including gene editing techniques.

2.

CLASS 536:



Organic Compounds - This class includes patents related to specific organic compounds used in gene editing processes, such as nucleic acids, proteins, and enzymes.

3.

CLASS 800:



Multicellular Living Organisms and Unmodified Parts Thereof and Related Processes - This class covers patents related to genetically modified organisms, including those created through gene editing technologies.

4.

CLASS 987:

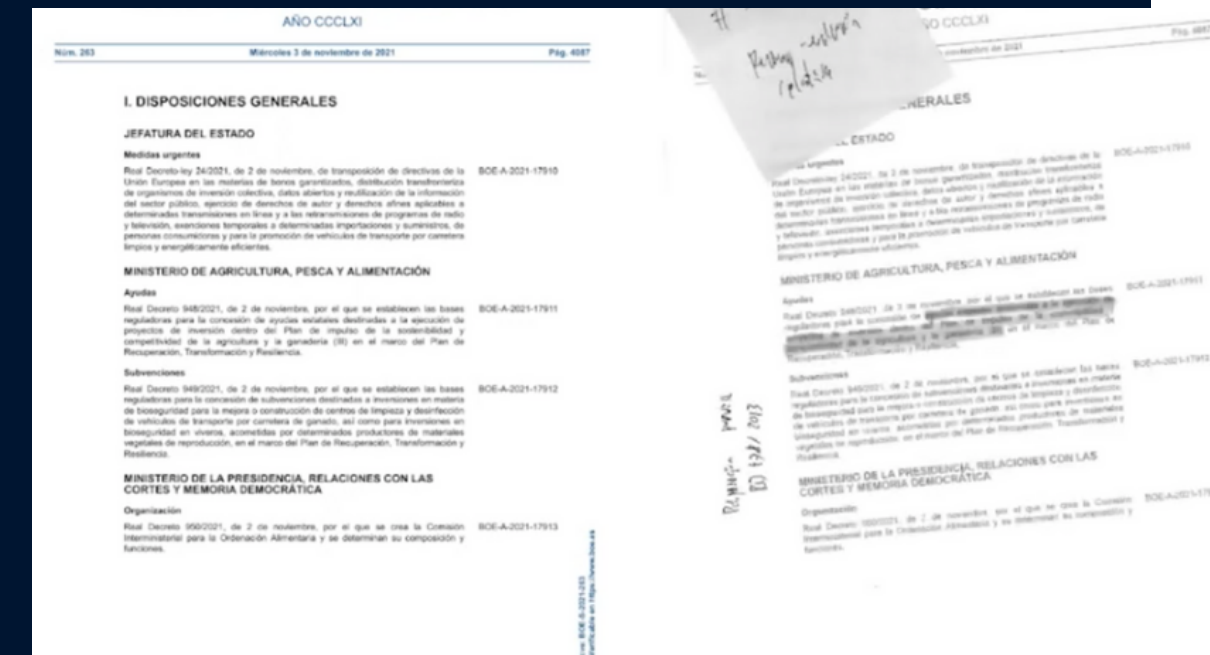


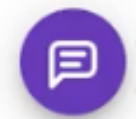
Recombinant DNA Technology - This class includes patents related to the manipulation and modification of DNA sequences using recombinant DNA techniques, which are often used in gene editing processes.

5.

CLASS 530:

Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof - This class encompasses patents related to peptides, proteins, and other biomolecules involved in gene editing techniques, such as CRISPR-Cas systems.





Vectara Upload File

Inputs

Connect Credential *

LITT QueryService & I... [edit]

File * [i]

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[Additional Parameters]

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Memory [i]

Return Source Documents

[Toggle]

[Additional Parameters]

Output

ConversationalRetrievalQAChain

[Copy] [Trash] [Info]



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- < Collapse nav
- Overview
- Data
 - Recently used
 - LITT
 - View all
- Build apps**
- API access
- Team
- Billing

Help

Spot a bug? Have a feature request? Please tell us at feedback@vectara.com.

Build applications

Vectara is flexible enough to work with any application. If you need help productionizing your app, try out these accelerators.

Vectara Ingest ingest framework

Getting data into Vectara is simple using either our [REST](#) or [gRPC](#) APIs.

If you need help getting started, we built **Vectara Ingest**. It's a sample ingestion framework that includes preconfigured templates for pulling data from many popular data sources.

Vectara Ingest

Vectara Answer sample UI

Building an effective UI for querying your data is the last step in providing value to your users.

Vectara Answer is a configurable sample UI that you can use as a starting point. See a demonstration by trying our [Ask News demo](#).

Vectara Answer

Prompt: "Provide a summary of patent categories and subclasses relevant to renewable energy technologies."

Text Generation:

- Solar Energy:
 - Class 136: Batteries: Thermoelectric and Photoelectric – This class includes patents related to solar cells, photovoltaic devices, and solar energy conversion systems.
 - Class 438: Semiconductor Device Manufacturing: Process – This class includes patents related to the manufacturing processes of solar cells and other semiconductor devices used in solar energy systems.
 - Class 977: Nanotechnology – This class includes patents related to nanoscale materials and structures used in solar energy applications.
- Wind Energy:
 - Class 416: Fluid Reaction Surfaces (i.e., Impellers) – This class includes patents related to wind turbine designs and components.
 - Class 415: Rotary Kinetic Fluid Motors or Pumps – This class includes patents related to wind energy conversion systems, including wind turbines and generators.
 - Class 290: Prime-Mover Dynamo Plants – This class includes patents related to the combination of wind turbines with electric generators.
- Biomass Energy:
 - Class 48: Gas: Heating and Illuminating – This class includes patents related to gasification processes for converting biomass into usable gases for heating and energy production.
 - Class 123: Internal-Combustion Engines – This class includes patents related to combustion engines designed to run on biomass-derived fuels.
 - Class 127: Sugar, Starch, and Carbohydrates – This class includes patents related to processes and technologies for converting biomass materials, such as sugars and starches, into biofuels.
- Hydroelectric Power:
 - Class 290: Prime-Mover Dynamo Plants – This class includes patents related to hydroelectric power generation systems, including turbines, generators, and dam structures.
 - Class 405: Hydraulic and Earth Engineering – This class includes patents related to hydraulic structures, such as dams, reservoirs, and channels, used in hydroelectric power generation.
 - Class 166: Wells – This class includes patents related to the use of wells and boreholes for capturing and utilizing underground water resources for hydropower.

Prompt: "Provide a summary of patent categories and subclasses relevant to renewable energy technologies."

Claim Chart Generation:

SOLAR ENERGY

01

- Class 136: Batteries: Thermoelectric and Photoelectric - This class includes patents related to solar cells, photovoltaic devices, and solar energy conversion systems.
- Class 438: Semiconductor Device Manufacturing: Process - This class includes patents related to the manufacturing processes of solar cells and other semiconductor devices used in solar energy systems.
- Class 977: Nanotechnology - This class includes patents related to nanoscale materials and structures used in solar energy applications.

BIOMASS ENERGY

03

- Class 48: Gas: Heating and Illuminating - This class includes patents related to gasification processes for converting biomass into usable gases for heating and energy production.
- Class 123: Internal-Combustion Engines - This class includes patents related to combustion engines designed to run on biomass-derived fuels.
- Class 127: Sugar, Starch, and Carbohydrates - This class includes patents related to processes and technologies for converting biomass materials, such as sugars and starches, into biofuels.

WIND ENERGY

02

- Class 416: Fluid Reaction Surfaces (i.e., Impellers) - This class includes patents related to wind turbine designs and components.
- Class 415: Rotary Kinetic Fluid Motors or Pumps - This class includes patents related to wind energy conversion systems, including wind turbines and generators.
- Class 290: Prime-Mover Dynamo Plants - This class includes patents related to the combination of wind turbines with electric generators.

HYDROELECTRIC ENERGY

04

- Class 290: Prime-Mover Dynamo Plants - This class includes patents related to hydroelectric power generation systems, including turbines, generators, and dam structures.
- Class 405: Hydraulic and Earth Engineering - This class includes patents related to hydraulic structures, such as dams, reservoirs, and channels, used in hydroelectric power generation.
- Class 166: Wells - This class includes patents related to the use of wells and boreholes for capturing and utilizing underground water resources for hydropower.

Legal Insight through Technology Transformation



Cooperative Patent Classification Codes Meaning For the US Patent competition.

<https://www.kaggle.com/datasets/xhlulu/cpc-codes>



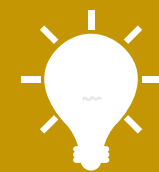
Google Patents Public Data Worldwide bibliographic and US patent publications

<https://www.kaggle.com/datasets/bigquery/patents>



Google Patents Research Data Data analysis work used in Google Patents (BigQuery).

<https://www.kaggle.com/datasets/bigquery/google-patents-research>



Intellectual Property Investigations by the USITC Section 337 investigations on intellectual property infringement (BigQuery).

<https://www.kaggle.com/datasets/bigquery/usitc-investigations>

PATENT DATASETS AND TOOLS

LLM PROMPT



publication_numbersort

Patent publication number (DOCDB compatible), eg: 'US-7650331-B1'.

title

The (possibly machine translated) English title.

title_translated

True if the title is machine-translated by Google Translate.

abstract

The (possibly machine translated) English abstract.

abstract_translated

True if the abstract is machine-translated by Google Translate.

cpc

The Cooperative Patent Classification (CPC) codes with the hierarchy.

cpc_low

The Cooperative Patent Classification (CPC) codes and their parents, in an array for easier querying.

cpc_inventive_low

The inventive Cooperative Patent Classification (CPC) codes and their parents, in an array for easier querying.

top_terms

The top 10 salient terms extracted from this patent's title, abstract, claims and description.

similar

Semantically similar documents based on content and metadata.

LEGAL KNOWLEDGE BASE: YOUR PERSONAL LEGAL ADVISOR



1

[1] CAIL2018: A LARGE-SCALE LEGAL DATASET FOR JUDGMENT PREDICTION

2

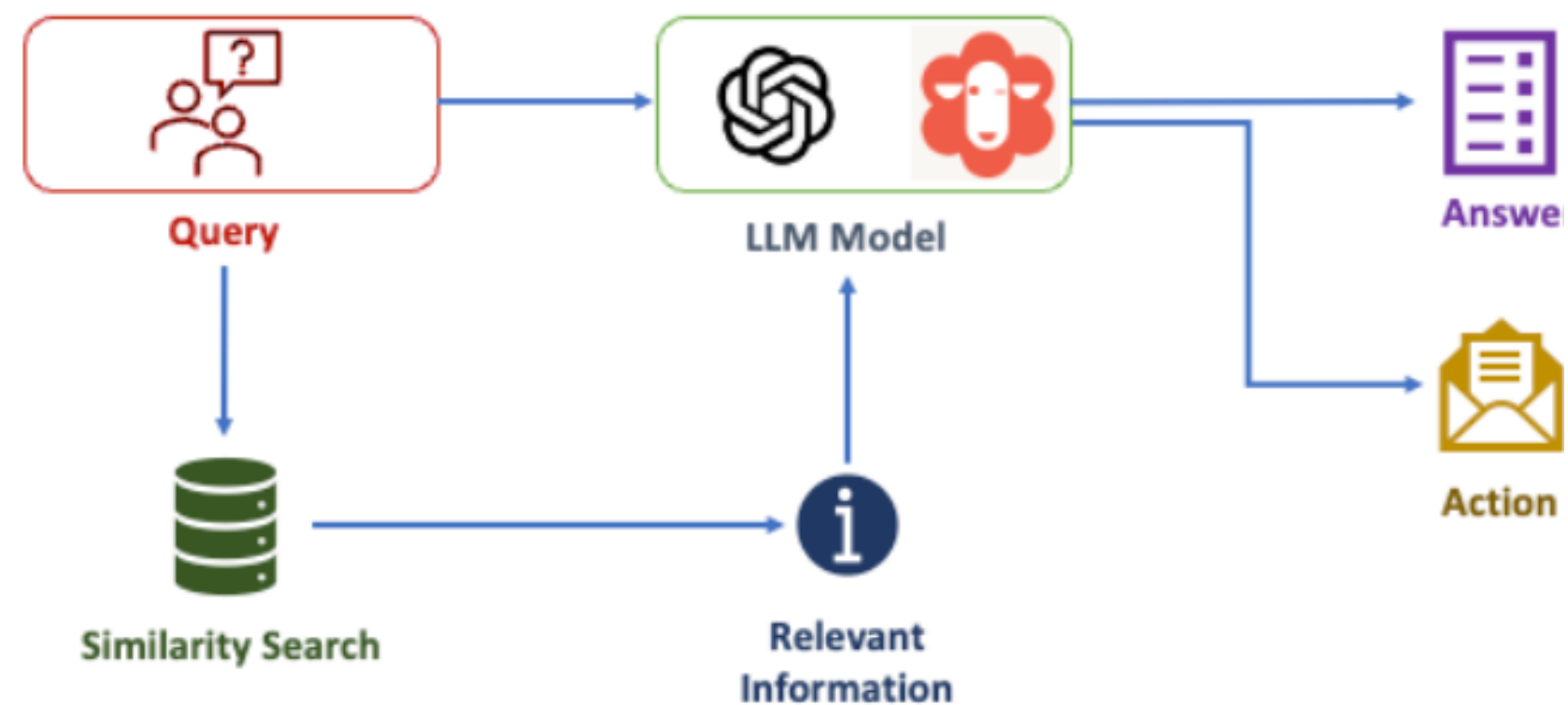
[2] WHEN DOES PRETRAINING HELP? ASSESSING SELF-SUPERVISED LEARNING FOR LAW AND THE CASEHOLD DATASET OF 53,000+ LEGAL HOLDINGS

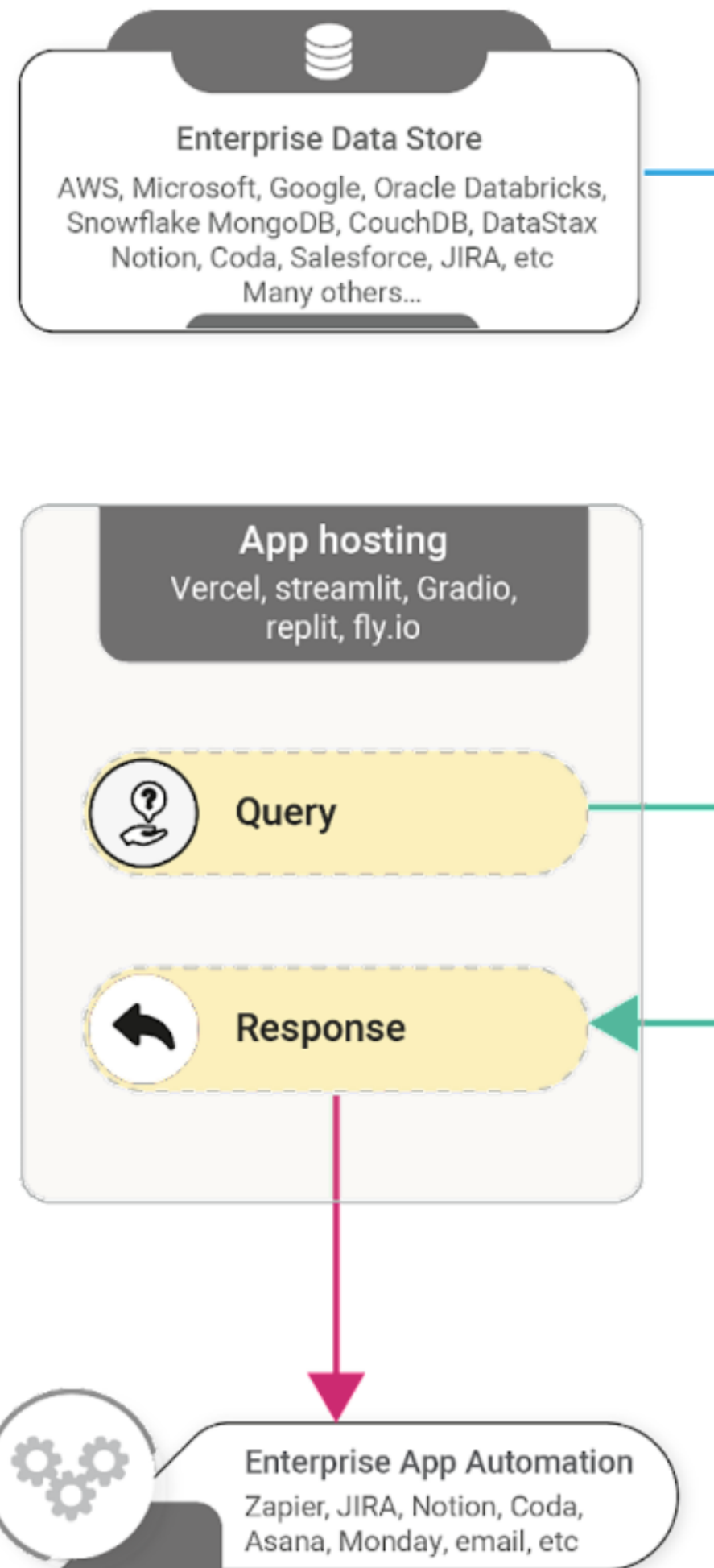
3

[3] LEXFILES AND LEGALLAMA: FACILITATING ENGLISH MULTINATIONAL LEGAL LANGUAGE MODEL DEVELOPMENT

4

[4] LEGAL EXTRACTIVE SUMMARIZATION OF U.S. COURT OPINIONS





NLP CORPUS: SUMMARIZE LEGAL TEXT

[1] Legal Prompt Engineering for Multilingual Legal Judgement Prediction

[2] Can GPT-3 Perform Statutory Reasoning?

[3] Legal Prompting: Teaching a Language Model to Think Like a Lawyer

[4] Large Language Models as Fiduciaries: A Case Study Toward Robustly Communicating With Artificial Intelligence Through Legal Standards

[5] ChatGPT Goes to Law School

[6] ChatGPT, Professor of Law

[7] ChatGPT & Generative AI Systems as Quasi-Expert Legal Advice Lawyers - Case Study Considering Potential Appeal Against Conviction of Tom Hayes

[8] 'Words Are Flowing Out Like Endless Rain Into a Paper Cup': ChatGPT & Law School Assessments

[9] ChatGPT by OpenAI: The End of LITT Lawyers?

[10] Law Informs Code: A Legal Informatics Approach to Aligning Artificial Intelligence with Humans

[11] ChatGPT may Pass the Bar Exam soon, but has a Long Way to Go for the LexGLUE benchmark paper

USPTO PORTFOLIO PROMPT



AUTOMATED USPTO STATUS UPDATES

Integrating LLMs enables automatic updates on the status of both published and unpublished patent applications at the United States Patent and Trademark Office (USPTO). This eliminates the need for manual tracking and improves efficiency in receiving and managing communication from the USPTO. TIP (Trademark Electronic Application System) tool eliminates the dependency on manual tracking and ensures that applicants are promptly notified of any changes.

ADVANCED PATENT SCORING

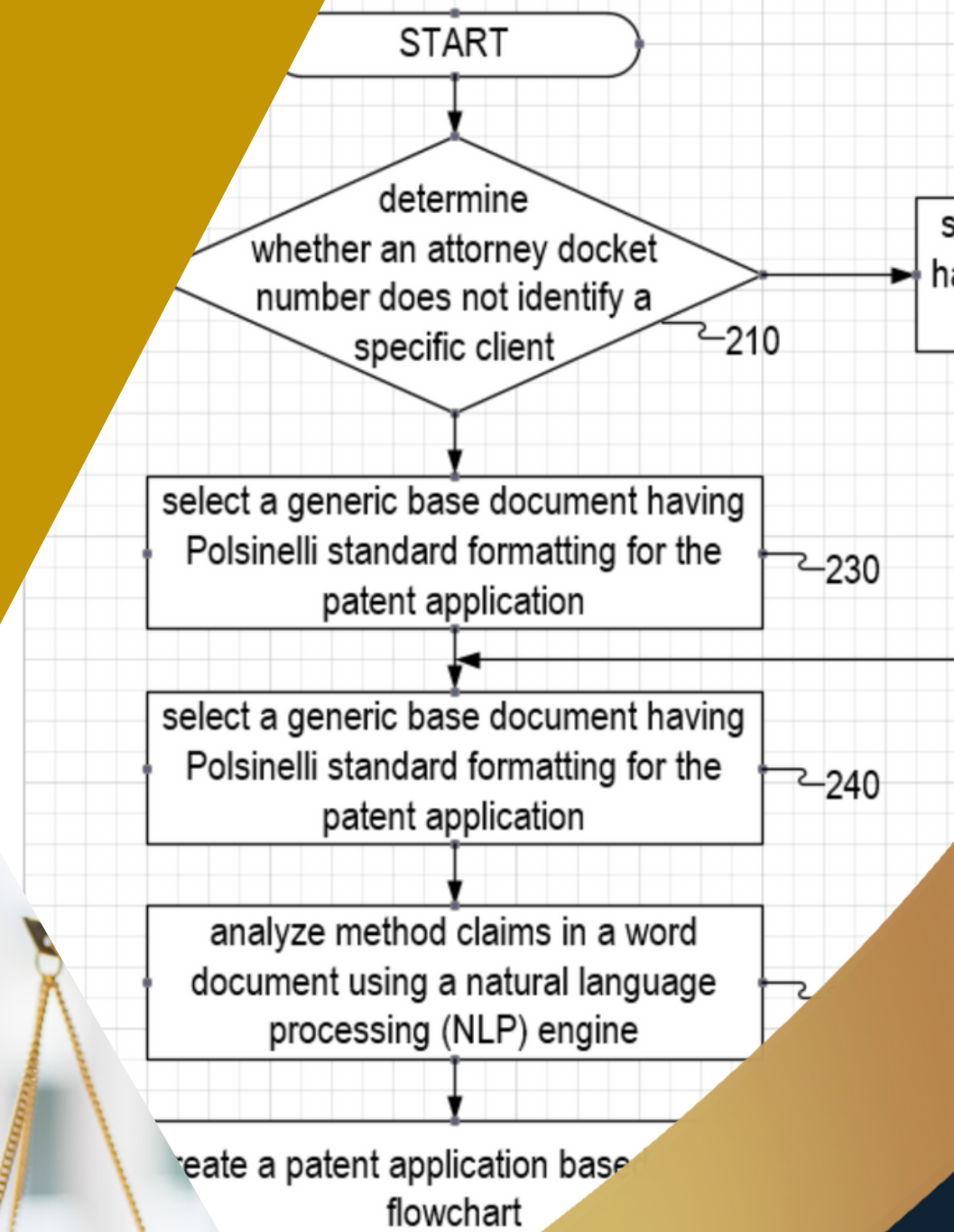
Harnessing the advanced language comprehension capabilities of LITT, users can employ sophisticated algorithms to assess patent portfolios with 99% accuracy. This empowers patent owners, researchers, and law firms to create stronger patents, evaluate competitor portfolios, and identify high-value patents for strategic decision-making.



AUTOMATION TOOLS

Save time and money on laborious tasks:

- ✓ Fill out Information Disclosure Statements (IDS) and USPTO forms
- ✓ Patent Application Drafting Tools
- ✓ Generate Shell Office Action Responses and Other Documents



Low

ELIGIBILITY

High

CLASSIFICATION



LITT can help identify relevant prior art that may impact the novelty and non-obviousness of a patent application. This can save significant time and effort in the initial stages of the patent process by identifying previously drafted patent applications. It can efficiently analyze and search through large volumes of patent databases, scientific literature, technical publications, and relevant sources.

CATEGORIZATION



Organizing and searching patent databases is a complex task due to the sheer volume of patents and the diversity of subject matters. LLMs can analyze patent documents, extract relevant keywords and concepts, and assist in categorizing patents into relevant subject matter classes making it easier to navigate and search for specific patents within a given technology domain.

PATENT SEARCH



Related patent documents

Export IDS

IIS10635490R2

IIS9690555R2

IIS10540625R2

CLASSIFICATION AND CATEGORIZATION



IDENTIFYING PATENT CATEGORIES:

LLMs can analyze the content and technical details of a patent and suggest appropriate patent categories based on the subject matter. This helps in organizing patents into relevant classes and subclasses.



ASSIGNING PATENT METADATA:

LLMs can extract important metadata from patent documents such as inventors' names, assignees, filing dates, and patent numbers. This metadata can be used to categorize and classify patents accurately.



ENHANCING PATENT SEARCH AND RETRIEVAL:

Improve the efficiency of patent search systems by suggesting relevant keywords and terms for search queries. They can also assist in generating more accurate search results by understanding the context and intent behind the search query.



COMPARE CLAIMS

Quickly perform a diff between claims within the same document, between files, or even patents



VISUALIZE CLAIM TREES

Review claim dependencies in graphical, matrix, or text formats

PREPARE UPLOADS

Split up applications into multiple DOC documents for compliant EFS-Web uploads



CLAIM AMENDMENTS

Instantly add or remove amendments and status indicators and convert track changes to standard amendment formatting

GENERATE CLAIM CHARTS

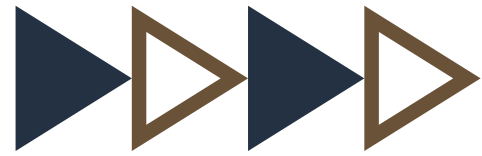
Instantly generate highly customizable claim charts for all or specific claim ranges



COMPUTE CLAIM FEES

Compute excess claim fees using USPTO and EPO fee schedules

PATENT DRAFTS



The screenshot displays a workflow automation interface with three main components:

- Vectara Upload File:** Includes an input section with a "Connect Credential" dropdown set to "LITT QueryService & I...", a "File" input field containing "US Patent Example.pdf", and an "Upload File" button. The output section features a "Vectara Retriever" dropdown.
- ChatOpenAI:** Includes an input section with a "Connect Credential" dropdown set to "OpenAI API", a "Model Name" dropdown set to "gpt-3.5-turbo", and a "Temperature" input field set to "0.9". The output section is labeled "ChatOpenAI".
- Conversational Retrieval QA:** A chat window with a header "Conversational Retrieval QA" and a message "Hi there! How can I help?". At the bottom, there is a text input field containing "Summarize the key legal principles and precedents relevant to a trademark infringement case." and a send button.

Arrows indicate the flow of data from the Vectara Upload File step to the ChatOpenAI step, and from the ChatOpenAI step to the Conversational Retrieval QA step.

1. Generate claim charts

2. Renumber claims

3. Generate flowchart figures (steps)

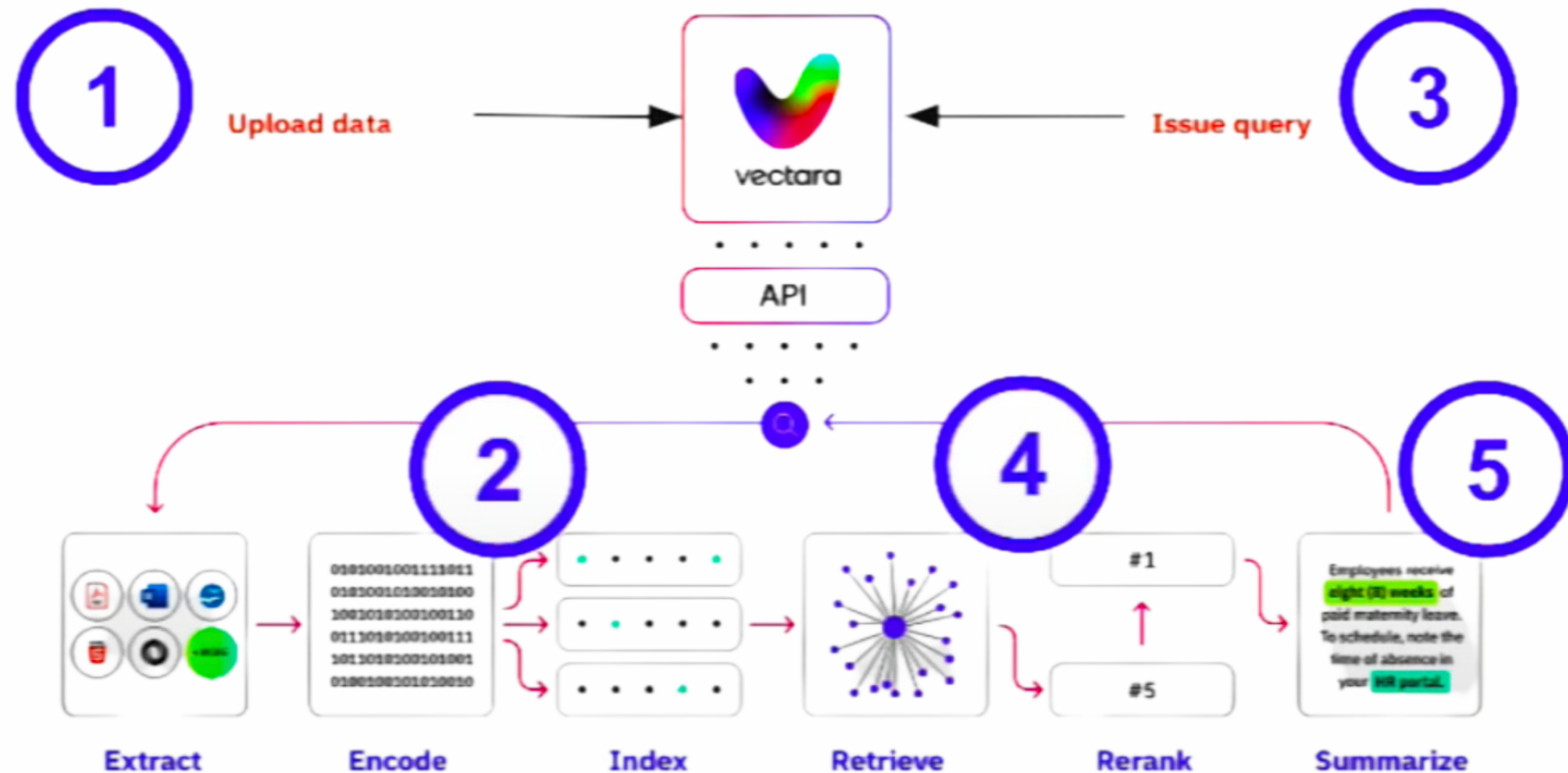
4. Clean up amended claim set

EMBEDDING MODELS TO POWER SEMANTIC SEARCH

SEARCH

SAVE

CANCEL



VECTARA ENSURES DATA SECURITY AND PRIVACY

LLMs like ChatGPT are typically trained on a vast amount of text data, including legal documents, court cases, legal literature, and various other sources. Through a process called unsupervised learning, the model learns to identify patterns, relationships, and context within the data. It develops an understanding of language and can generate coherent and contextually relevant text based on the input it receives.

Vectara is different in that it is open sourced and fine-tuned to ensure data security and privacy by analyzing patent documents and leveraging Databricks' data processing capabilities.

Patent Application

METHODS, SYSTEMS, AND STORAGE MEDIA FOR CONTROLLING ACCESS TO DATA OF A USER DEVICE USING A SECURITY APPLICATION INSTALLED AS AN ACCESSIBILITY SERVICE ON THE USER DEVICE

FIELD OF TECHNOLOGY

[0001] The present invention relates generally to the field of [[INSERT GENERAL FIELD]] and, and more specifically, to methods, systems, and storage media for controlling access to data of a user device using a security application installed as an accessibility service on the user device.

BACKGROUND

[0002] [[INSERT BACKGROUND SECTION]]

SUMMARY

[0003] One aspect of the present disclosure relates to a method for controlling access to data of a user device using a security application installed as an accessibility service on the user

Attorney Docket No.: XXXXX-XXXXXX
Client Reference: XXXXXXXXUS

1 COMPUTING PLATFORMS AND SYSTEMS FOR MANAGING VIRTUAL MACHINE MIGRATION

2

3

4 Cross-Reference To Related Applications

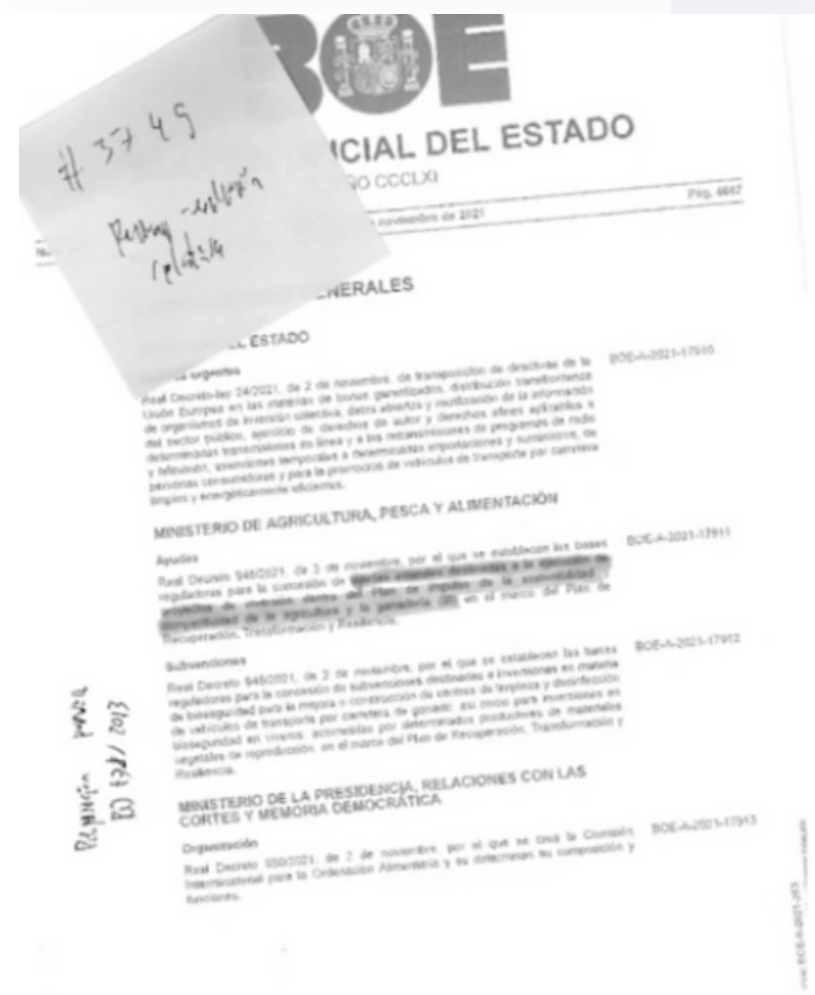
5 This application is [[INSERT RELATED APPLICATIONS]],
6 the entirety of which is incorporated herein by reference.

7 Background

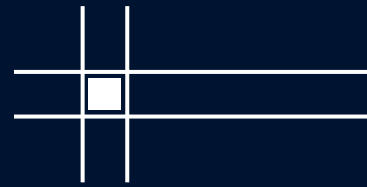
8 [[INSERT BACKGROUND SECTION]]

9 Brief Summary

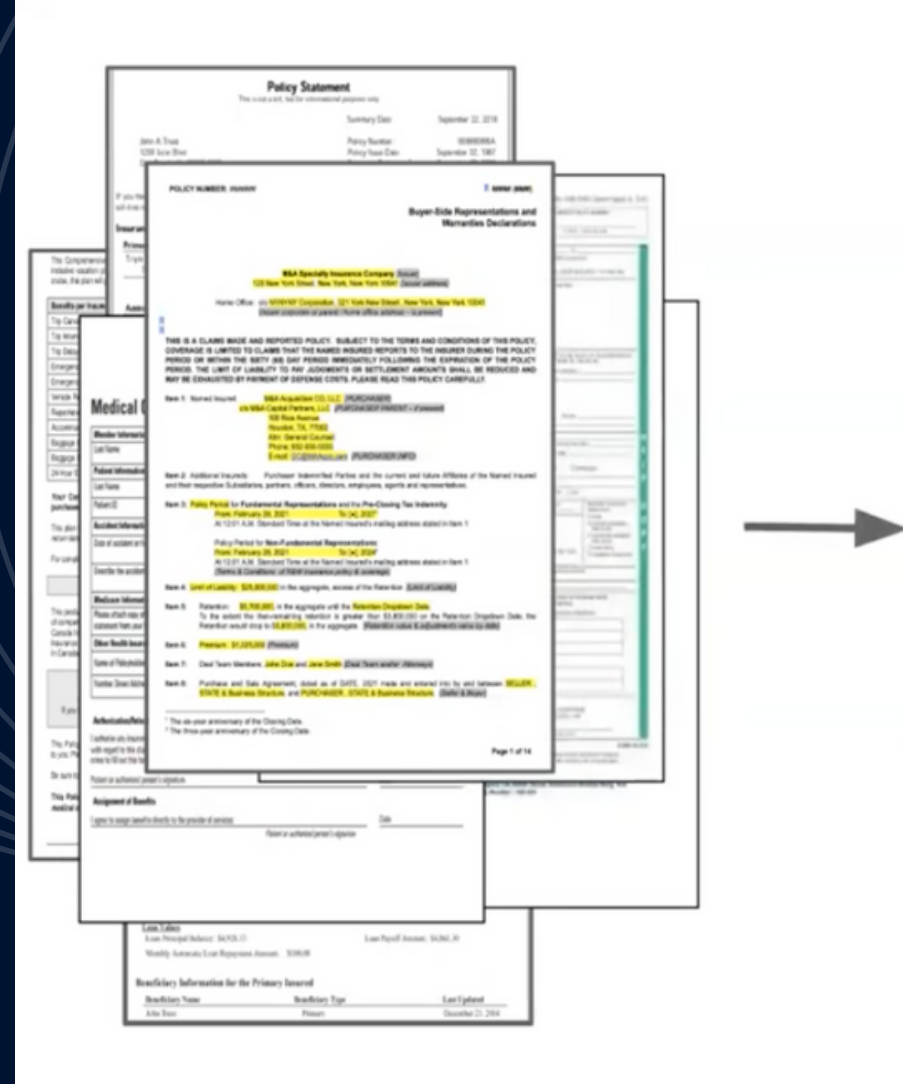
10 One aspect of the present disclosure relates to a computing platform
11 configured for managing virtual machine migration. The computing
12 platform may include a non-transient computer-readable storage medium



GENERATE PATENTS



ART UNIT, 101, 102/3, POTENTIAL
112 ISSUES, DRAWING PARTS
LIST, CLAIM TREE AND MORE.



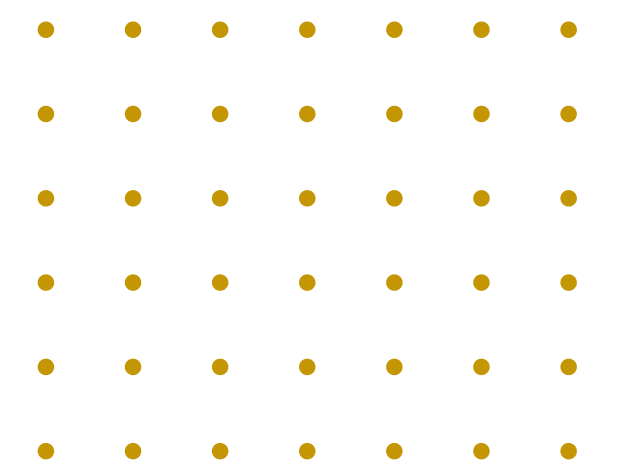
Fine-tuning LLMs like Vectara for specific legal tasks requires careful experimentation and iterative optimization to achieve optimal performance. Handling large-scale patent datasets necessitates efficient data preprocessing and cleaning techniques to ensure accuracy and consistency. Architectural considerations and distributed computing infrastructure play a vital role in achieving scalability and high-performance computing for processing patent data.



Google Patents Research Data
Google Patents Public Datasets



PatentsView Data
Google Patents Public Datasets





Vectara Upload File

Inputs

Connect Credential *

LITT QueryService & I...

File * 1

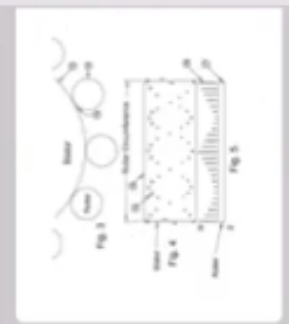
US Patent Example.pdf

Upload File

Additional Parameters

Output

Vectara Retriever



3



4



5



6



US009871431B2

(12) **United States Patent**
Miller

(10) **Patent No.:** US 9,871,431 B2
(45) **Date of Patent:** Jan. 16, 2018

(54) **SPINTRONIC GENERATOR**

(71) Applicant: SEARL MAGNETRONIX, LLC, Fort Lauderdale, FL (US)

(72) Inventor: Kirk Miller, Reno, NV (US)

(73) Assignee: SPINTRONICS, INC., North Palm Beach, FL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 453 days.

(58) **Field of Classification Search**
CPC H02N 11/00; H02K 16/00
USPC 310/46, 44, 115, 184, 156.34
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
2013/0257208 A1* 10/2013 Samuels H02K 1/223 310/115

FOREIGN PATENT DOCUMENTS
FR 2463992 A1 2/1981
RU 2155435 C1 * 8/2000

OTHER PUBLICATIONS
Written Opinion of the International Searching Authority dated Jan. 29, 2015 for corresponding application PCT/US 2014/053612. International Search Report mailed with Written Opinion (#1) for corresponding application PCT/US 2014/053612.

(21) Appl. No.: 14/474,126
(22) Filed: Aug. 30, 2014
(65) **Prior Publication Data**
US 2015/0091397 A1 Apr. 2, 2015

Related U.S. Application Data
(60) Provisional application No. 61/872,641, filed on Aug. 31, 2013.

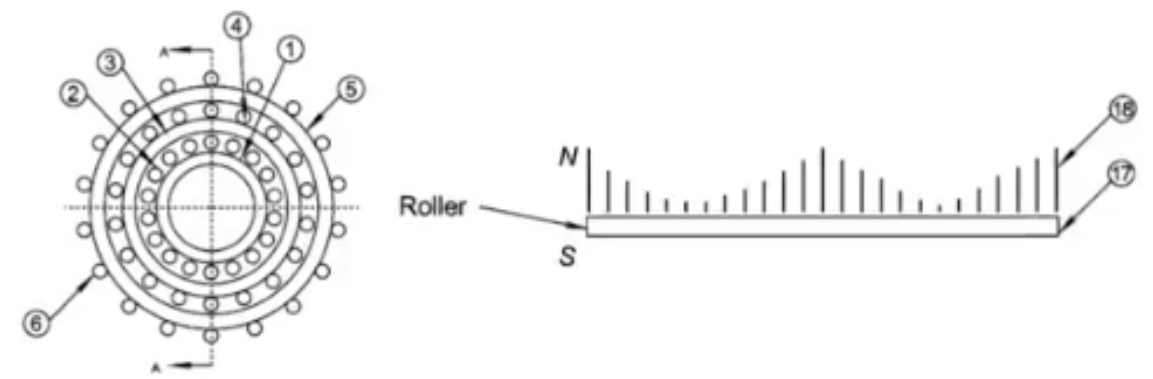
(51) **Int. Cl.**
H02K 15/12 (2006.01)
H02K 37/00 (2006.01)
H02K 23/60 (2006.01)
H02K 15/03 (2006.01)
H02K 16/00 (2006.01)
H02N 11/00 (2006.01)

(52) **U.S. Cl.**
CPC H02K 16/00 (2013.01); H02N 11/008 (2013.01)

* cited by examiner
Primary Examiner — Jose Gonzalez Quinones
(74) Attorney, Agent, or Firm — Daniel S. Polley, P.A.

(57) **ABSTRACT**
A spintronic generator that provides electrical power with the motive force of natural electron spin. The utilization of natural electron spin can be enhanced with carefully matched materials, weights, and magnetic waveforms which provide precise pulsed frequencies in resonance with the materials. This resonance of the magnetic pulses provides clean abundant power. A utilization of the Zero Point Energy results in a local environment temperature drop which can be one of the sources of motive force. The harvesting of electricity can be in standard induction pick up coils controlled by direct current motor controllers using an LRC tank circuit.

36 Claims, 4 Drawing Sheets



THE PATENT LANDSCAPE

Leveraging Vectara's language generation capabilities, LITT will continue to evolve based on user feedback and emerging technologies to address the evolving needs of patent litigation professionals.



CORPORATE AND COMPLIANCE

Be aware of new developments, as laws and rules often change based on the situation.



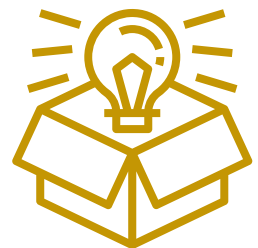
LABOR AND EMPLOYMENT

Never judge, just listen and advise. Even if your client has made a bad decision in the case. ■



DISPUTE RESOLUTION

Being untruthful will get you nowhere and give you a reputation of the dishonesty in law.



INTELLECTUAL PROPERTY

Our attorneys are fully committed to providing you with the support and attention that you deserve.



MERGERS AND ACQUISITIONS

Keep yourself up-to-date on your area of law. Be aware of a new justice, as laws and rules.



BUSINESS TAXATION

You may find yourself unable to work or complete work-related responsibilities safely.

THE AVERAGE PATENT IS 22 PAGES.

Madam Speaker, Madam Vice President, and our First Lady and Second Gentleman, members of Congress and the Cabinet, Justices of the Supreme Court, my fellow Americans: Last year, COVID-19 kept us apart. This year, we're finally together again.

Tonight — tonight we meet as Democrats, Republicans, and independents, but, most importantly, as Americans with a duty to one another, to America, to the American people, and to the Constitution, and an unwavering resolve that freedom will always triumph over tyranny.

Six — thank you. Six days ago, Russia's Vladimir Putin sought to shake the very foundations of the free world, thinking he could make it bend to his menacing ways. But he badly miscalculated. He thought he could roll into Ukraine and the world would roll over. Instead, he met with a wall of strength he never anticipated or imagined. He met the Ukrainian people.

...

Fixed Chunking

Madam Speaker, Madam Vice President, and our First Lady and Second Gentleman, members of Congress and the Cabinet, Justices of the Supreme Court, my fellow Americans: Last year, COVID-19 kept us apart. This year, we're finally together again.

Tonight — tonight we meet as Democrats, Republicans, and independents, but, most importantly, as Americans with a duty to one another, to America, to the American people, and to the Constitution, and an unwavering resolve that freedom will always triumph over tyranny.

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...

NLP Chunking



2. NATURAL LANGUAGE UNDERSTANDING

- Utilize Retrieval Augmented Generation (RAG) to analyze and understand patent documents, including claims, descriptions, and legal texts.
- Extract relevant information such as inventors, assignees, patent classifications, and key technical details.

4. PATENT DRAFTING AND ANALYSIS:

- Provide Retrieval Augmented Generation (RAG) with prompts related to patent drafting or analysis tasks, such as generating drafts for patent applications or analyzing patent claims and specifications.
- Retrieval Augmented Generation (RAG) can assist with suggesting claim language, providing technical descriptions, identifying potential infringements, and helping with patent

tion strategies.



1. PATENT DATA PROCESSING

- Preprocess and clean the patent data, including patent documents, legal texts, and other relevant information.
- Format the data in a way that is compatible with the input requirements of Retrieval Augmented Generation (RAG) .

3. PRIOR ART SEARCH

- Frame the search query based on the specific criteria or technology you are interested in.
- Use Retrieval Augmented Generation (RAG) to generate comprehensive search prompts that capture the essence of the search query.
- Combine the generated prompts with traditional search techniques to identify relevant prior art from large patent databases and scientific literature.

5. CLASSIFICATION AND CATEGORIZATION:

- Use Retrieval Augmented Generation (RAG) to recommend appropriate patent classifications for a given patent application or technology domain.
- Frame prompts that ask Retrieval Augmented Generation (RAG) to suggest patent classes or subclasses based on the subject matter or technical aspects of the invention.

DATA COLLECTION
AND PRIOR ART
SEARCH:



Utilize tools to gather and analyze relevant patent data from patent databases, scientific literature, and other sources. Conduct comprehensive prior art searches using natural language processing (NLP) algorithms to identify existing patents and technical literature relevant to the invention.

PATENT
DRAFTING AND
APPLICATION:



Employ models to generate drafts for patent applications by providing suggestions for claim language, technical descriptions, and other sections of the patent application. Use AI-based language models to assist patent attorneys in writing and reviewing patent applications, ensuring accuracy and consistency.

PATENT
ANALYSIS AND
EVALUATION:

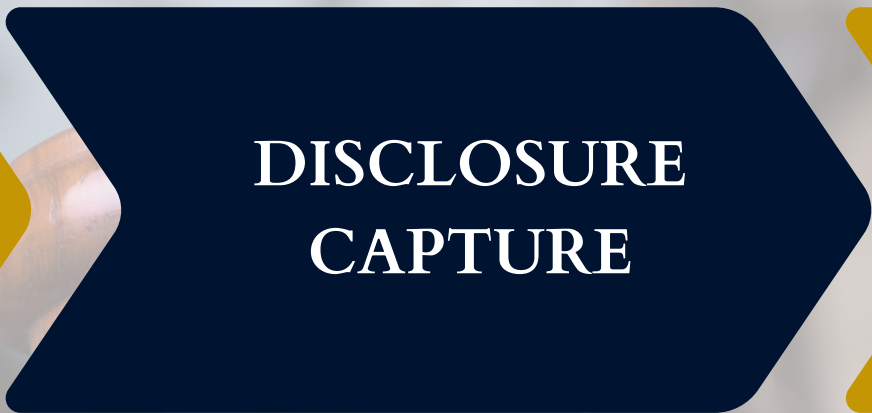
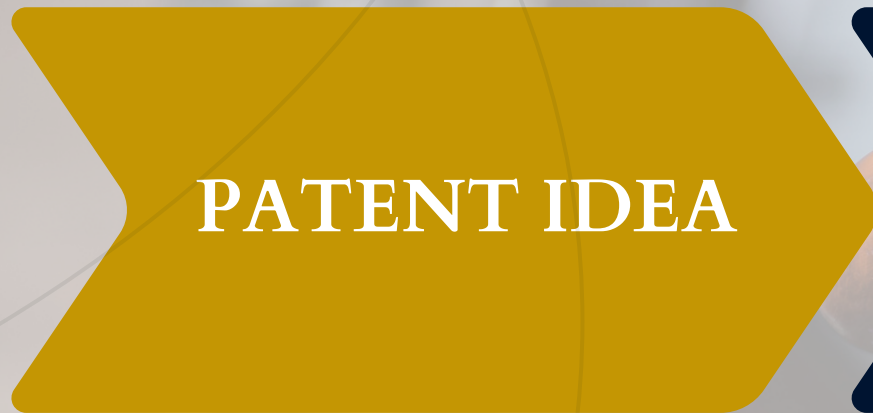


Apply AI techniques, such as machine learning and data mining, to analyze patent claims, specifications, and related documents. Extract relevant information from patents using NLP algorithms to identify potential infringements, assess patent validity, and evaluate patentability.

PATENT
PROSECUTION AND
LITIGATION SUPPORT:



Leverage LLM technologies to support patent prosecution by identifying relevant prior art, generating responses to office actions, and providing legal research assistance. Utilize AI-powered analytics tools to assist with patent litigation strategies, including claim construction, infringement analysis, and patent portfolio evaluation.



Assist in generating and refining patent ideas by analyzing existing patents, scientific literature, and other relevant sources.

Extract key technical details and assist in preparing comprehensive disclosure documents, ensuring accurate and is captured for patent filing.

Create claim flowcharts. This assists in organizing and clarifying the claims before drafting the patent application.

Generate drafts of patent claims. They can suggest language, formats, and dependencies based on established patent legal standards and relevant prior art.



It can assist in managing the patent workflow, including document organization, collaboration, and tracking of deadlines and actions.

Identify issues with patent claims, including compliance with Section 112 requirements, such as clarity, enablement, and written description.

They can assist in explaining patent concepts, reviewing prior art, and facilitating discussions on claim strategies and patent filing decisions.

Analyze prior art, assess potential infringements, and patent litigation strategies, providing comprehensive information for informed decision-making.



STANDARDIZED INVOICE FORMATS:

With the integration of VECTARA and LLMs, LITT's legal automation tools streamline patent prosecution, analysis, and drafting tasks. This saves time, reduces errors, and improves overall efficiency.



EFFICIENT INVOICE MANAGEMENT:

Simplify invoice management. They check for standardized invoice formats, automate invoice review using AI and ML algorithms, and facilitate invoice data collaboration for insights, cost forecasting, and fee negotiations.

AUTOMATION **STREAMLINES** **OPERATIONS**



TRANSPARENCY AND COMPLIANCE:

Enhances transparency in eBilling practices, reduces disputes, and ensures accurate and compliant invoices. It eliminates manual processes, improves data analysis, and reduces the risk of errors and delays in payment.

Long Document from the Dataset!

Step 1

<|endoftext|>

Step 5

Step 3

Question:

Was there a violation of any of these articles?

Step 2

A, Yes

Step 4

B, No

Step 3

Answer:

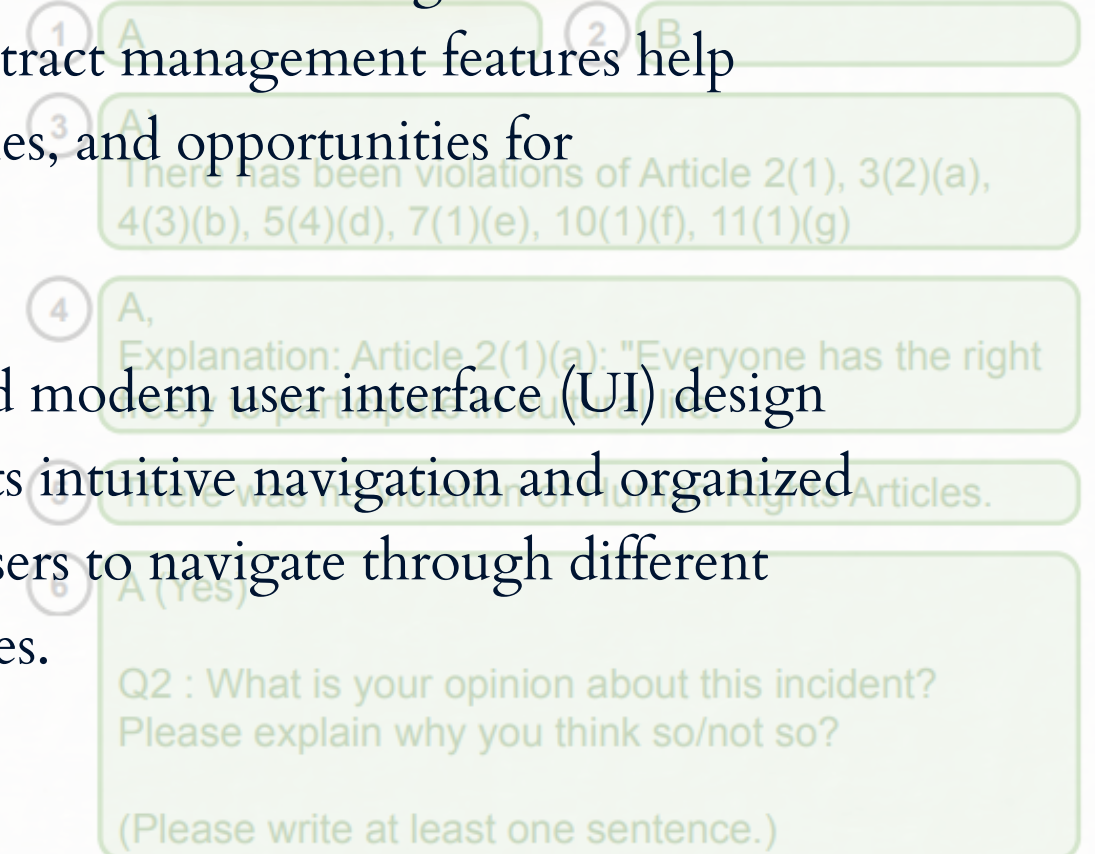
Completion from the LLM

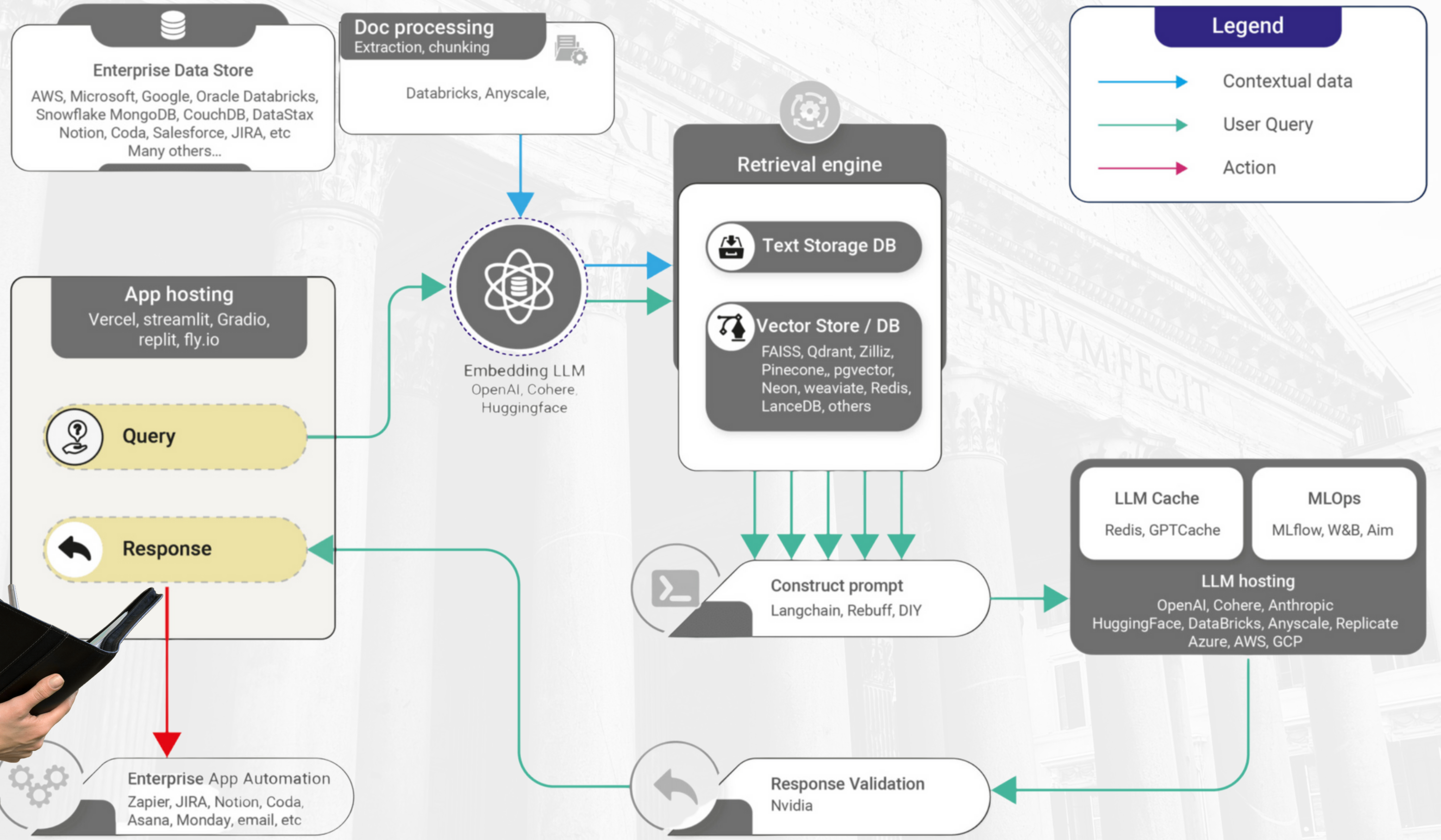


INTELLIGENT WORKFLOW OPTIMIZATION

Through VECTARA and LLMs, LITT's UI/UX optimizes the contract lifecycle. It turns legal contracts into digital assets, streamlining workflows for business and legal teams. The platform's intelligent contract management features help identify risks, discrepancies, and opportunities for improvement.

LITT features a clean and modern user interface (UI) design that enhances usability. Its intuitive navigation and organized layout make it easy for users to navigate through different features and functionalities.





SEAMLESS INTEGRATION OF VECTARA



VECTARA and LLMs are seamlessly integrated into LITT's UI/UX, empowering advanced contract analysis, generation, and understanding. Users can leverage the natural language processing capabilities of VECTARA and LLMs to interact with the platform using human-like language. Autogenerate text for a patent invention for the draft background highlighting the novelty, and inventiveness.

**PRELIMINARY
SET OF CLAIMS**



The seamless integration of VECTARA and LLMs into LITT's UI/UX enables advanced contract analysis capabilities. With VECTARA and LLMs' natural language processing abilities, the platform can automatically extract key information from contracts, identify clauses, and detect potential issues or risks. This empowers users to quickly assess the legal implications of a contract, saving time and improving decision-making.

**ENHANCED
CONTRACT ANALYSIS**



Users generate precise contract drafts by entering prompts. By leveraging the models' extensive legal knowledge, contextually relevant contract suggestions and assist with technical details. Additionally, users can ask specific questions and receive detailed responses, improving their understanding of complex legal terms and provisions. This user-friendly interface makes advanced legal capabilities easily accessible to professionals and non-experts alike.

**CONTRACT
GENERATION**

LEGAL CONTRACT LIFECYCLE

01.

SEAMLESS CONTRACT MANAGEMENT:

LITT leverages the advanced capabilities of VECTARA, a powerful large language model (LLM), to enhance its user interface and user experience. Through seamless integration, users can harness the natural language processing capabilities of VECTARA and LLMs to interact with the platform using human-like language. This integration enables users to easily analyze, generate, and understand complex legal contracts with the assistance of sophisticated AI technologies.

03.

INTELLIGENT CONTRACT UNDERSTANDING:

UI/UX enhances the platform's ability to understand and interpret legal language. Users can input complex legal queries and receive accurate and comprehensive responses, thanks to the advanced language processing capabilities of VECTARA and LLMs. This empowers users to navigate through legal complexities more efficiently and make informed decisions based on reliable AI-generated insights.

02.

DIGITAL TRANSFORMATION OF CONTRACTS:

With the integration of VECTARA and LLMs, LITT offers advanced contract analysis and generation functionalities. Users can leverage the natural language processing capabilities of VECTARA and LLMs to gain deeper insights into contract terms, clauses, and potential legal implications. The AI-powered technology assists in identifying key provisions, detecting potential risks, and providing suggestions for optimizing contract language. This integration streamlines the contract drafting process, saving time and improving the quality of the generated contracts.



CREATING A GLOBAL PATENT PORTFOLIO

MARKET EXPANSION IN DIFFERENT GEOGRAPHIES:

When planning a global patent portfolio strategy, it is essential to identify key markets where your product has significant potential for profits and expansion. Filing patents in countries where you intend to operate and generate revenue allows you to protect your intellectual property rights and prevent competitors from capitalizing on your innovations.



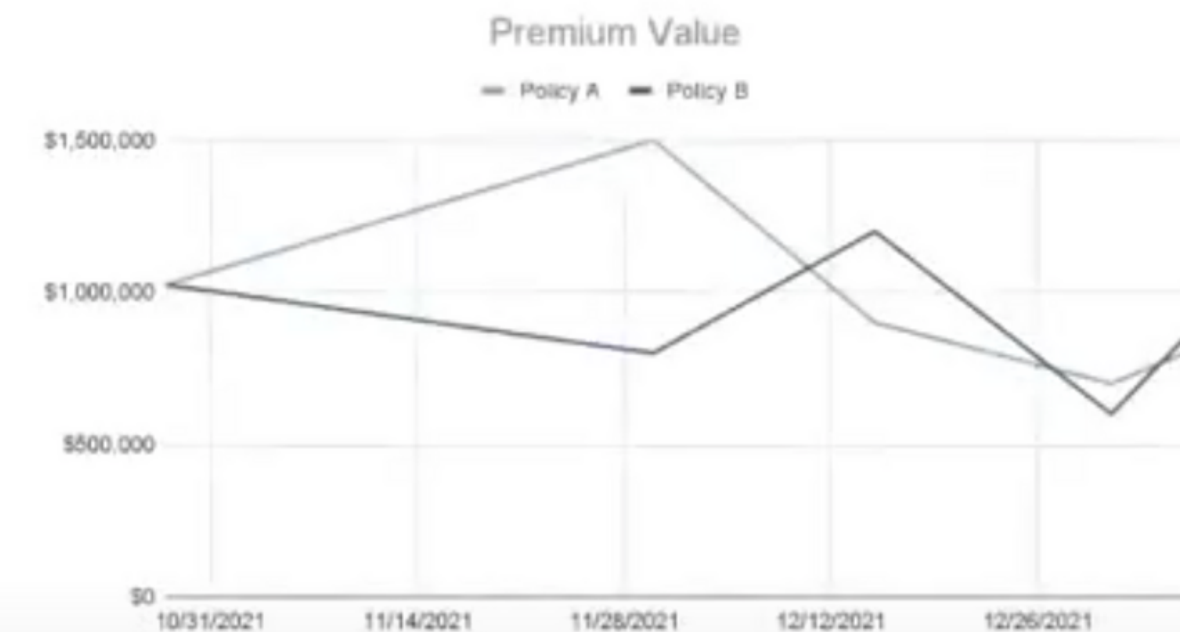
LEVEERAGING LLMS TO SAVE MONEY:

Carefully evaluate the costs associated with patent protection in various countries and weigh them against the potential profits. Patent filing expenses can vary significantly depending on the jurisdiction. Assess the market potential, demand for your product, and the likelihood of recouping costs before pursuing patent protection in each country. Consider the value of stopping competitors and the potential return on investment in each market.

Date	Policy A	Policy B	...
10/28/2021	\$1,025,000	\$1,025,000	...
11/30/2021	\$1,500,000	\$800,000	...
12/15/2021	\$900,000	\$1,200,000	...
12/31/2021	\$700,000	\$600,000	...
01/05/2022	\$800,000	\$850,000	...

STUDYING COMPETITOR MARKETS:

Analyzing your competitors' activities in different countries is crucial for developing an effective global patent strategy. Identify regions where your competitors are generating substantial profits without having IP protection. To prevent competitors from selling similar products or to explore licensing opportunities, protect your IP assets in those specific markets.



PROBLEM

The problem addressed by LITT is the inefficiency and complexity involved in handling the contract lifecycle. Traditional contract management processes are often manual, time-consuming, and prone to errors. This leads to delays, miscommunication, and increased risk for businesses and legal teams.

EXISTING ALTERNATIVES

- **ContractWorks:** ContractWorks is a contract management software that provides features for contract creation, storage, and tracking.
- **Concord:** Concord is a contract lifecycle management platform that allows users to create, negotiate, and manage contracts online.

SOLUTION

Vectara offers a comprehensive solution that streamlines the entire contract lifecycle. It provides a user-friendly platform that simplifies contract creation, review, negotiation, and execution. By digitizing contracts and centralizing their management, it enhances accessibility, improves efficiency, and enables seamless collaboration between stakeholders.

KEY METRICS

Key metrics for LITT include user adoption rate, contract processing time, customer satisfaction, revenue growth, and user retention. These metrics track the platform's user engagement, efficiency in contract management, customer feedback, financial performance, and ability to retain users over time.

UNIQUE VALUE PROPOSITION

- **Enhanced Legal Workflow:** Provide AI-powered automation and assistance in patent law tasks, improving efficiency and accuracy in legal workflows.
- **Patent Analysis and Insights:** Offer comprehensive patent analysis, including prior art search, claim analysis, and document summarization, enabling faster and more informed decision-making.
- **Language Understanding and Assistance:** Utilize Vectara's advanced language understanding capabilities to assist legal professionals in drafting legal documents and conducting legal research.

KEY PARTNERS

- **Patent Databases:** Collaborate with patent databases to access and retrieve patent data for training and inference.
- **Legal Firms:** Partner with legal firms to understand their specific needs and gather insights for model development and application features.
- **AI Research Institutions:** Collaborate with AI research institutions to stay updated with the latest advancements in language models and patent law.

CHANNELS

- **Online Platform:** Provide the application as a web-based platform accessible to legal firms, attorneys, and researchers.
- **Partnerships:** Collaborate with patent databases, legal firms, and research institutions to promote the application and gain traction in the market.

CUSTOMER SEGMENTS

- **Legal Firms:** Provide a solution for legal firms to streamline their patent litigation processes and improve productivity.
- **Patent Attorneys:** Support patent attorneys in conducting research, analyzing patent claims, and preparing legal documents.
- **Patent Researchers:** Assist patent researchers in performing prior art searches and analyzing patent landscapes.

EARLY ADOPTERS

- **Forward-thinking businesses and legal teams** that recognize the need for a modern and efficient contract management solution. : Offer customer support and training to ensure smooth onboarding and usage of the application.
- **Continuous Updates and Enhancements:** Regularly update the application with new features and improvements based on user feedback and evolving industry needs.

COST STRUCTURE

- **Model Development and Maintenance:** Invest in the development, fine-tuning, and continuous improvement of the Vectara language model for patent law.
- **Software Development:** Allocate resources and budget for application development, including frontend and backend development, user interface design, and quality assurance.
- **Infrastructure and Hosting:** Cover costs associated with computing resources, cloud hosting, and data storage.
- **Marketing and Partnerships:** Allocate resources for marketing activities, including digital marketing campaigns, participation in legal conferences, and partnerships with industry stakeholders.

REVENUE STREAMS

- **Subscription Model:** Charge a subscription fee for access to the application, with different pricing tiers based on the level of usage and features required.
- **Enterprise Licensing:** Offer enterprise-level licensing options for larger legal firms and organizations.
- **Data Services:** Explore opportunities to provide value-added services such as data analytics and customized reports.

GEN AI APPLICATIONS

LITT aims to integrate with existing legal workflow management systems, allowing seamless integration into the existing processes of law firms and legal departments. This integration with human lawyers will enable a more streamlined and efficient patent litigation workflow. This includes future features such as patent landscape analysis, competitor analysis, and infringement risk assessment, empowering legal professionals to make informed decisions and strategize effectively : LITT will continue to expand its collection of patent datasets, including proprietary datasets, to enhance the accuracy and relevance of its analysis. Collaboration with patent research organizations and partnerships with industry experts will facilitate access to high-quality and patent specific datasets.



INDIVIDUAL
INVENTORS



ENTERPRISE



PATENT
PRACTITIONERS



“RAG AS A SERVICE” ARCHITECTURE

Know the probability of getting your idea patented or a prediction on how much getting a patent may cost over the years. Get information like cost predictions, estimated time of allowance, examiner and law firm statistics for actionable intelligence. We are offering patent case reports with all this information. Overall, AI, Vectara, and litigation capabilities provide significant benefits to law firm associates, law firm partners, and in-house legal teams, enhancing training efficiency, productivity, cost-effectiveness, and value creation across different tiers of the legal profession.

\$250

LAW FIRM ASSOCIATES

- ✓ Email Support
- ✓ 2 Hours Consultation
- ✗ 1 Month Maintenance
- ✗ 24/7 Support

\$450

LAW FIRM PARTNERS

- ✓ Email Support
- ✓ 2 Hours Consultation
- ✓ 1 Month Maintenance
- ✗ 24/7 Support

\$650

IN-HOUSE LEGAL TEAMS

- ✓ Email Support
- ✓ 2 Hours Consultation
- ✓ 1 Month Maintenance
- ✓ 24/7 Support

\$250

LAW FIRM ASSOCIATES

- 1. Training Efficiency:** AI and Vectara help law firm associates accelerate their training process by automating routine tasks involved in patent preparation. By skipping the rote aspects, associates can focus more on developing their skills and expertise, allowing them to contribute value to the firm at an earlier stage.
- 2. Enhanced Productivity:** With AI and Vectara's assistance, law firm associates can significantly increase their productivity. By automating repetitive tasks and leveraging advanced drafting capabilities, associates can efficiently handle more cases, deliver higher-quality work, and meet the demands of clients and reviewers consistently.
- 3. Value-added Focus:** By delegating repetitive tasks to AI and Vectara, law firm associates can dedicate more time and energy to high-value tasks. This enables them to provide strategic insights, engage in complex legal analysis, and contribute their expertise to projects, adding value to clients and the firm.

\$450

LAW FIRM PARTNERS

- 1. Workflow Acceleration:** AI and Vectara empower law firm partners to accelerate their workflow and increase practice capacity by up to 30% without the need for additional staff. By leveraging automation and advanced technologies, partners can handle a larger volume of cases, efficiently manage resources, and generate higher revenues for the firm.
- 2. Profitable Drafting:** With the assistance of AI and Vectara, law firm partners can beat their hours budget even with a high billing rate. By automating routine tasks and streamlining the drafting process, partners can deliver high-quality patent applications more efficiently, resulting in increased profitability for both the firm and the partners.
- 3. Cost Reduction:** AI and Vectara help law firm partners cut costs while maintaining quality. By leveraging automation and advanced technologies, partners can optimize resources, reduce the need for outsourcing, and deliver cost-effective services to clients. This not only enhances client satisfaction but also improves the firm's competitiveness in the market.

\$650

IN-HOUSE LEGAL TEAMS

- 1. Workflow Efficiency:** AI and Vectara enable in-house legal teams to increase efficiency and streamline their patent preparation processes. By automating certain tasks, teams can save valuable time and resources, allowing them to focus on higher-value activities, strategic decision-making, and maintaining an effective IP management system.
- 2. Workload Rebalance:** With the assistance of AI and Vectara, in-house legal teams can rebalance their workload by automating certain aspects of patent preparation. This helps teams optimize their bandwidth, reduce administrative burdens, and allocate resources more effectively, resulting in improved productivity and higher-quality applications.
- 3. Intellectual Property Value:** AI and Vectara empower in-house legal teams to enhance the value of their intellectual property. By leveraging automation and advanced drafting capabilities, teams can draft claims in-house, leveraging their business knowledge and expertise to maximize the leverage of their IP assets and protect the company's valuable innovations.

NON PROVISIONAL PATENTS

Budget for higher filing fees and attorney fees, considering complexity and entity type. Additional costs may arise for actions during the examination process.

With the assistance of AI and Vectara, the cost of filing non-provisional patents can be reduced by streamlining common prosecution tasks, improving efficiency, and minimizing errors, leading to potential cost savings.

Per Case

10 hours of legal consultation

24 hours response time

Phone or email consultation



<u>Non-Provisional</u>	Provisional	
Fees	Cost	Total
Patent Drafting Fee	\$10,000 X 1	\$10,000
Government Fee	\$1,820 X 1	\$1,820
Miscellaneous Fee	\$3,500 X 1	\$3,500
Annual Miscellaneous Fee	\$500 X 3	\$1,500
Argument round Response Fee	\$3,000 X 1	\$3,000
Examiner Interview Fee	\$1,500 X 1	\$1,500
Insurance service Fee	\$1,500 X 1	\$1,500
Insurance Cost	\$1,000 X 1	\$1,000
	Total	\$23,820
Maintenance Cost 1st Cycle (After 3.5 years)	\$2,000 X 1	\$2,000
Maintenance Cost 2nd Cycle (After 7.5 years)	\$3,760 X 1	\$3,760
Maintenance Cost 3rd Cycle (After 11.5 years)	\$7,700 X 1	\$7,700
	Grand Total	\$37,280

PROVISIONAL PATENTS

Budget for lower filing fees and consult with a patent attorney to ensure proper content and disclosure, while delaying some costs associated with non-provisional filings.

We can help make the process of drafting provisional patents more efficient and cost-effective by automating certain tasks and providing valuable insights, reducing the overall expenses associated with filing provisional patents.

Per Case

60 hours of legal consultation

1 hour response time

Dedicated associate

NEXT STEPS



FOREIGN PATENT FILING AND TRANSLATORS

Complex multilingual legal matters require documents to be hosted, translated and reviewed. Trademark searching and trademark filing service globe building a global network



CONFIGURABLE PROMPTS

Develop an interactive interface that allows users to input their queries, select desired functionalities, and receive responses from Retrieval Augmented Generation (RAG) .



USER FRIENDLY

Present the outputs generated by Retrieval Augmented Generation (RAG) in a user-friendly format, such as formatted patent drafts, categorized patent classes, or summarized analysis results.