

4^o Encuentro Regional CATI's Eje Cafetero



Organizan:



Patentes de software

1. Generalidades de patentes

- ¿Qué se protege mediante patentes?
- Requisitos
- Rompiendo algunos mitos

2. ¿se puede el software proteger mediante patentes?

1. Generalidades de patentes

¿Qué se protege mediante patentes?

¿ Qué es una **invención** ? (en materia de patentes)

OMPI: un **producto** o **procedimiento** que aporta una **nueva solución técnica a un problema técnico**

RAE: tecnología:

1. f. Conjunto de teorías y de técnicas que permiten el aprovechamiento práctico del conocimiento científico.

4. f. Conjunto de los instrumentos y procedimientos industriales de un determinado sector o producto.

¿ Qué es un **descubrimiento**?

RAE: Hallazgo, encuentro, manifestación de lo que estaba oculto o secreto o era desconocido.

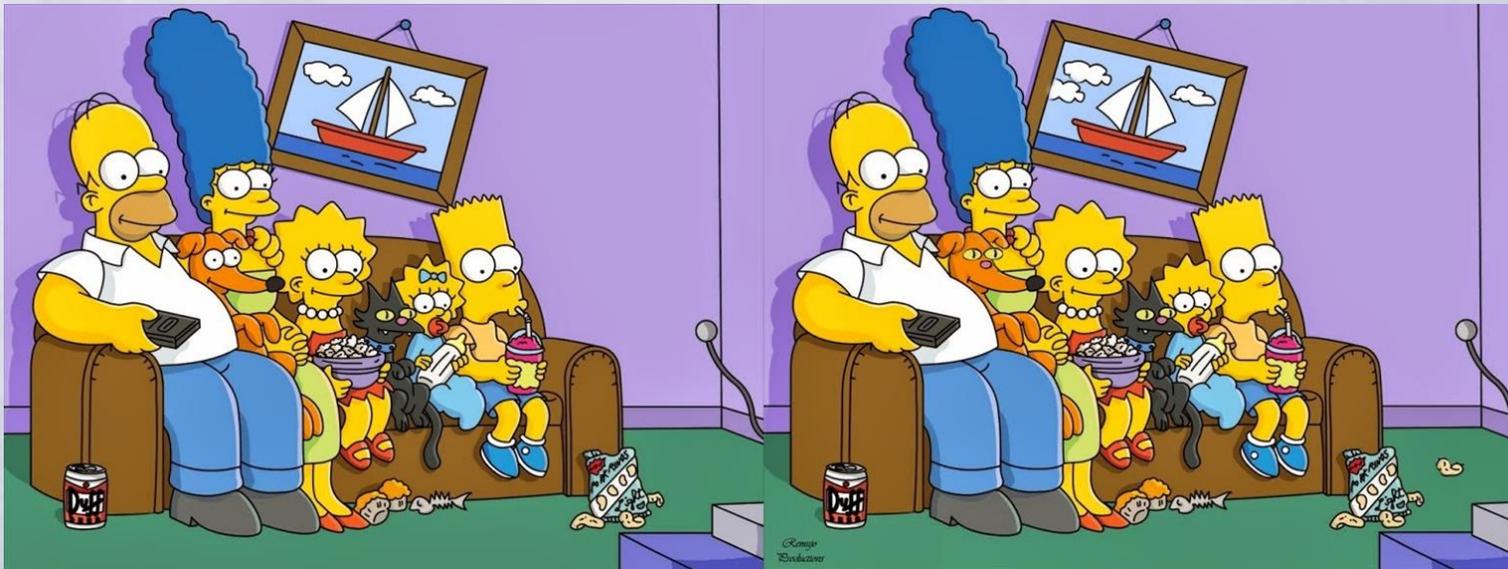
Los descubrimientos no se patentan...

1. Generalidades de patentes

Requisitos: Novedad

Diferente del arte previo (estado de la técnica) ¡NO exactamente idéntico !

- Cada elemento reclamado descrito y organizado de forma diferente al **estado de la técnica** (arte previo)



1. Generalidades de patentes

Requisitos: Novedad

¿Qué es el Estado de la Técnica?

Información anterior a la **FECHA EFECTIVA**:

- Fecha efectiva □ “primero en presentar”
- Fecha de solicitud o prioridad

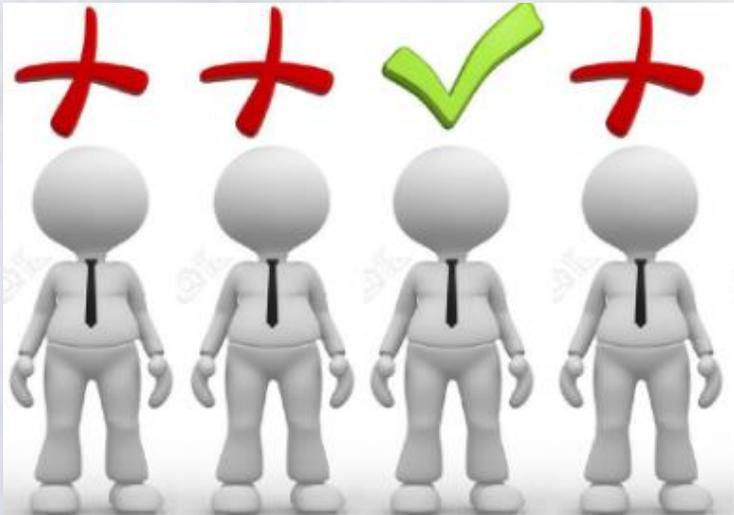
TODO documento público:

Patentes, Publicaciones técnicas, Abstracts de conferencias, Folletos de marketing, Posters, Productos, Dispositivos, Equipos, Procesos y Materiales



1. Generalidades de patentes

Requisitos: Nivel inventivo



- Problema técnico sin resolver (avance tecnológico)
- Superación de un prejuicio (expertos) y/o dificultades
- Simplicidad
- Efecto sorprendente
- NO OBVIEDAD: ingenio más allá de lo

1. Generalidades de patentes

Rompiendo algunos mitos

- ¿Qué es? Derecho de exclusión territorial
- ¿Qué protegen las patentes? (soluciones a problemas)
- Término de protección 20 años (no Inventiones (no técnicos))
- **Requisitos** para la protección (prorrogables)
 - Materia elegible
 - Divulgación suficiente
 - Novedad (periodo de gracia de 1 año)
 - Nivel inventivo
 - Aplicación Industrial
- ¿Cuáles son las patentes internacionales?
- Autoridad Competente (CO)



2. ¿Se puede el software proteger mediante patentes?

La norma dice...

No son patentables (CAN)

- Invenciones que atenten contra el **orden público o la moral**.
- Invenciones que atenten contra la **salud o la vida**, los vegetales o el medio ambiente.
- Las plantas, los animales y los procedimientos esencialmente biológicos
- Los métodos de diagnóstico, terapéuticos o quirúrgicos para el tratamiento humano o animal

Decisión 486, artículo 15:

✓ No se consideran invenciones...

e) los programas de ordenador o el soporte lógico, **como tales**;

No se consideran Invenciones (CAN)

- Los descubrimientos
- Las teorías científicas o matemáticas
- Materia o procesos tal como se encuentran en la naturaleza
- Seres vivos
- Obras artísticas
- Los planes, reglas y métodos para el ejercicio de actividades intelectuales, juegos o actividades económico-comerciales
- Software
- Las formas de presentar información.

2. ¿Se puede el software proteger mediante patentes?

¿Qué es un software?

□ Programa de Computación (*software*):

RAE: “Conjunto de programas, instrucciones y reglas informáticas para ejecutar ciertas tareas en una computadora”

- ✓ un programa escrito en un lenguaje de programación para implementar un algoritmo (lista de instrucciones),
- ✓ código binario cargado en un aparato basado en computadora (lenguaje de máquina)

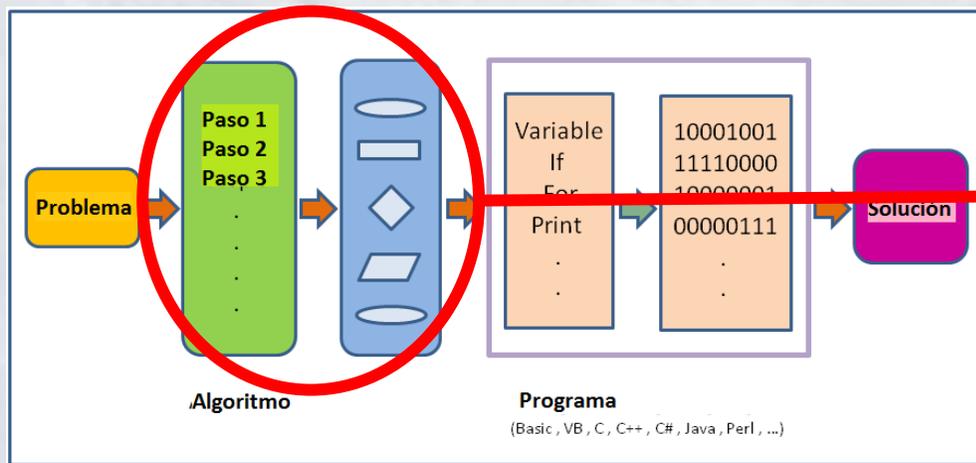


**NO
PATENTABLE**

**Sin efecto técnico
directo**

2. ¿Se puede el software proteger mediante patentes?

¿Qué es un software?



Un ordenador, una red informática u otro aparato programable, realiza una o más características total o parcialmente, por medio de un programa.



□ ... deben resolver un problema técnico de manera novedosa e i

... toda la programación informática implica consideraciones técnicas:

- ☐ método que pueda ser llevado a cabo por una máquina

Sin embargo, el programador debe haber tenido consideraciones técnicas más allá de "simplemente" escribir un código de computadora para llevar a cabo algún procedimiento (algoritmo) □ **considerar resultados (¡efectos!)**

2. ¿Se puede el software proteger mediante patentes?

Ejemplos de patentes: IPC

Técnica de AI

- Fuzzy logic: G06N7/02
- Deep learning: G06N3/02
- Machine learning: G06N3/08, G06N99/00, G06K9/00
- Neural networks: G06N3/02, G06N7/04
- Probabilistic graphical models: G06N7/00
- Rule learning: G06N5/02

Link:

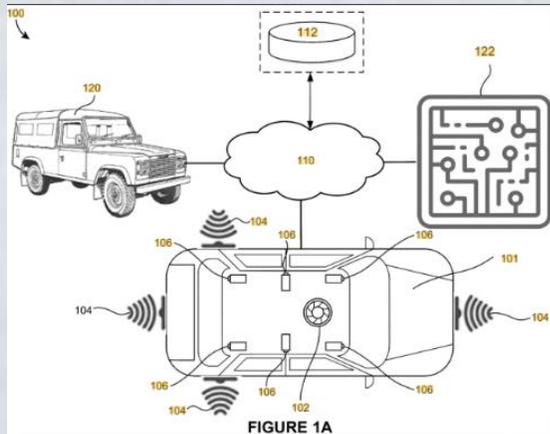
https://www.wipo.int/tech_trends/en/artificial_intelligence/patentscope.html

Aplicación de AI

- Computer visión: G06T7/00, G06K9/00, G06T1/20, G06T3/40, G06T9/00
- Control methods: G05B13/02, G05D1/00
- Knowledge representation and reasoning: G06N5/00
- Robotics: A61B34/00, B25J9/00

2. ¿Se puede el software proteger mediante patentes?

Ejemplos de patentes



US 20230351775A1

United States
Patent Application Publication (10) Pub. No.: US 2023/0351775 A1
 Sheu et al. (43) Pub. Date: Nov. 2, 2023

(54) **INFERRING INTENT USING COMPUTER VISION** (2006.01)
G06T 11/20 (2006.01)
G06F 18/24 (2006.01)

(71) Applicant: **Pony AI Inc.**, Grand Cayman (KY)
 (72) Inventors: **Kevin Sheu**, Fremont, CA (US); **Jie Mao**, Santa Clara, CA (US)

(21) Appl. No.: 18/340,819
 (22) Filed: Jun. 23, 2023

Related U.S. Application Data
 (63) Continuation of application No. 17/011,901, filed on Sep. 3, 2020, now Pat. No. 11,688,179.

Publication Classification
 (51) **Int. Cl.**
G06F 20/58 (2006.01)
G06N 5/04 (2006.01)
G06N 20/00 (2006.01)
G06T 7/11 (2006.01)

(52) **U.S. Cl.**
G06F 18/24 (2006.01)
G06V 20/584 (2022.01); *G06N 5/04* (2013.01); *G06N 20/00* (2019.01); *G06T 7/11* (2017.01); *G06T 11/20* (2013.01); *G06F 18/24* (2023.01); *G06T 22/012* (2013.01)

(57) **ABSTRACT**
 A system trains a model to infer an intent of an entity. The model includes one or more sensors to obtain frames of data, one or more processors, and a memory storing instructions that, when executed by the one or more processors, cause the system to perform steps. A first step includes determining, in each frame of the frames, one or more bounding regions, each of the bounding regions enclosing an entity. A second step includes identifying a common entity, the common entity being present in bounding regions corresponding to a plurality of the frames. A third step includes associating the common entity across the frames. A fourth step includes training a model to infer an intent of the common entity based on data outside of the bounding regions.



Application US18/340,819 events ⓘ

2023-06-23 • Application filed by Pony AI Inc, Pony AI Inc USA

2023-06-23 • Priority to US18/340,819

2023-06-23 • Assigned to PONY AI INC. ⓘ

2023-11-02 • Publication of US20230351775A1

Status • Pending

2. ¿Se puede el software proteger mediante patentes?

Ejemplos de patentes

US 20230186549A1

(19) **United States**
 (12) **Patent Application Publication** (10) Pub. No.: **US 2023/0186549 A1**
 Yang et al. (43) Pub. Date: **Jun. 15, 2023**

(54) **HIGH-DEFINITION CITY MAPPING** *G06T 1/20* (2006.01)
G06T 7/70 (2017.01)

(71) Applicant: **Pony AI Inc.**, Grand Cayman (KY)

(72) Inventors: **Mengda Yang**, Sunnyvale, CA (US);
Weixin Jiang, Guangzhou City (CN);
Chuanchuan Liu, Wuhan (CN)

(21) Appl. No.: **18/168,729**
 (22) Filed: **Feb. 14, 2023**

Related U.S. Application Data

(63) Continuation of application No. 17/588,679, filed on Jan. 31, 2022, now Pat. No. 11,580,688, which is a continuation of application No. 17/124,444, filed on Dec. 16, 2020, now Pat. No. 11,238,643.

Publication Classification

(51) **Int. Cl.**
G06T 15/08 (2011.01)
G01S 17/89 (2020.01)

(57) **ABSTRACT**
 A vehicle generates a city-scale map. The vehicle includes one or more Lidar sensors configured to obtain point clouds at different positions, orientations, and times, one or more processors, and a memory storing instructions that, when executed by the one or more processors, cause the system to perform registering, in pairs, a subset of the point clouds based on respective surface normals of each of the point clouds; determining loop closures based on the registered subset of point clouds; determining a position and an orientation of each of the subset of the point clouds based on constraints associated with the determined loop closures; and generating a map based on the determined position and the orientation of each of the subset of the point clouds.

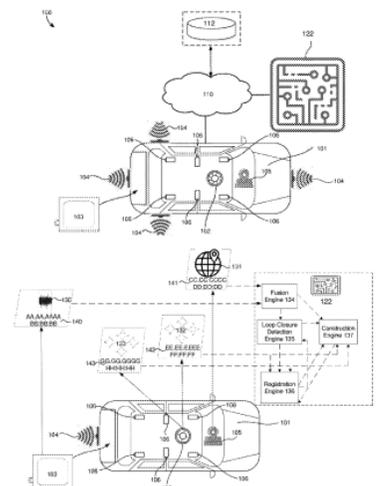
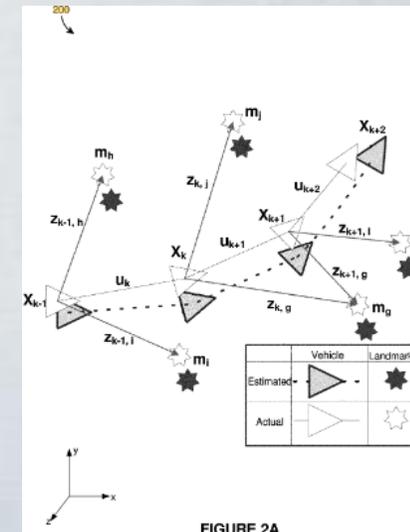



FIGURE 2A

HOY
US11880931

Application US18/168,729 events

- 2023-02-14 • Application filed by Pony AI Inc, Pony AI Inc USA
- 2023-02-14 • Priority to US18/168,729
- 2023-06-15 • Publication of US20230186549A1
- 2023-08-29 • Assigned to PONY AI INC.
- 2024-01-23 • Application granted
- 2024-01-23 • Publication of US11880931B2

Status • Active

2040-12-16 • Anticipated expiration

2. ¿Se puede el software proteger mediante patentes?

Ejemplos de patentes



Libro blanco

Protección de datos mediante inteligencia artificial y aprendizaje automático

Con el ritmo cada vez mayor de las comunicaciones empresariales modernas, las organizaciones están viendo nuevos comportamientos de intercambio de datos que socavan la eficacia de los métodos convencionales de identificación de datos en los que se basan principalmente las soluciones de prevención de pérdida de datos (DLP).

La clasificación de archivos mediante aprendizaje automático ofrece un medio rápido y eficaz para identificar información confidencial y es un método fiable de identificación de datos no estructurados que se encuentran en documentos e imágenes, como formularios de impuestos, documentos de patentes, códigos fuente, pasaportes, licencias de conducir, tarjetas de pago, capturas de pantalla y más.

En este documento técnico, aprenderá más sobre los riesgos asociados con los datos no estructurados y cómo Netskope puede brindarle una seguridad de datos superior a las soluciones DLP tradicionales y convencionales de la actualidad.



US10270788B2

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

(10) **Patent No.:** US 10,270,788 B2
(45) **Date of Patent:** Apr. 23, 2019

(54) **MACHINE LEARNING BASED ANOMALY DETECTION**

(71) Applicant: **Netskope, Inc.**, Los Altos, CA (US)

(72) Inventors: **Ariel Faigon**, Los Altos, CA (US); **Krishna Narayanaswamy**, Saratoga, CA (US); **Jeevan Tambuluri**, Los Altos, CA (US); **Ravi Ithai**, Fremont, CA (US); **Steve Malmskog**, Los Altos, CA (US); **Abhay Kulkarni**, Cupertino, CA (US)

(73) Assignee: **Netskope, Inc.**, Los Altos, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 250 days.

(21) Appl. No.: 15/256,483

(22) Filed: Sep. 2, 2016

(65) **Prior Publication Data**
US 2017/0353477 A1 Dec. 7, 2017

Related U.S. Application Data

(60) Provisional application No. 62/346,382, filed on Jun. 6, 2016.

(51) **Int. Cl.**
H04L 29/06 (2006.01)
G06N 99/00 (2019.01)
(Continued)

(52) **U.S. Cl.**
CPC **H04L 63/1416** (2013.01); **G06F 21/554** (2013.01); **G06F 21/6209** (2013.01); **G06N 99/005** (2013.01)

(58) **Field of Classification Search**
CPC H04L 63/1425; H04L 63/1408; G06F 21/554; G06F 21/6209
See application file for complete search history.

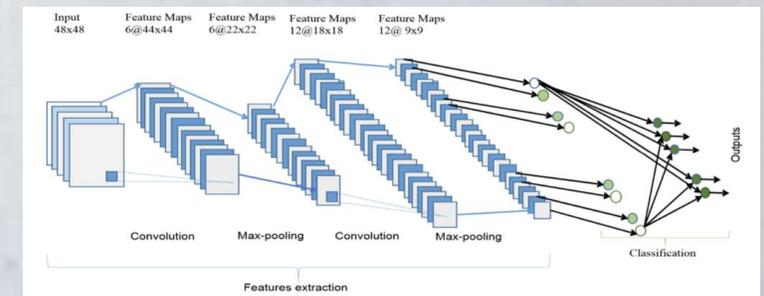
(56) **References Cited**
U.S. PATENT DOCUMENTS
6,574,655 B1 6/2003 Libert et al.
2008/0127303 A1 5/2008 Wighton et al.
(Continued)

OTHER PUBLICATIONS
Langford, John, "vowpal_wabbit", 6 pages, [retrieved on Aug. 24, 2016]. Retrieved from the Internet: https://github.com/JohnLangford/vowpal_wabbit.
(Continued)

Primary Examiner — Theodore C Parsons
Assistant Examiner — Carlos M De Jesus Lassala
(74) **Attorney, Agent, or Firm** — Haynes Beffel & Wolfeld LLP; Ernest J. Beffel, Jr.

(57) **ABSTRACT**
The technology disclosed relates to machine learning based anomaly detection. In particular, it relates to constructing activity models on per-tenant and per-user basis using an online streaming machine learner that transforms an unsupervised learning problem into a supervised learning problem by fixing a target label and learning a regressor without a constant or intercept. Further, it relates to detecting anomalies in near real-time streams of security-related events of one or more tenants by transforming the events in categorized features and requiring a loss-function analyzer to correlate, essentially through an origin, the categorized features with a target feature artificially labeled as a constant. It further includes determining an anomaly score for a production event based on calculated likelihood coefficients of categorized feature-value pairs and a prevalenceist probability value of the production event comprising the coded features-value pairs.

28 Claims, 12 Drawing Sheets



Application US15/256,483 events ?

- 2016-09-02 • Application filed by Netskope Inc
- 2016-09-02 • Priority to US15/256,483
- 2017-12-07 • Publication of US20170353477A1
- 2019-04-23 • Application granted
- 2019-04-23 • Publication of US10270788B2

Status • Active

2037-05-10 • Adjusted expiration

Show all events v

2. ¿Se puede el software proteger mediante patentes?

Ejemplos de patentes



Products ▾ Resources ▾ Industries ▾

Generative AI built for the Enterprise

Accelerate the next wave of digital transformation with the first platform to deliver enterprise grade chips, software, and models in a fully integrated system, purpose built for AI.

Learn More

(19) United States
(12) Patent Application Publication (10) Pub. No.: US 2024/0037181 A1
NATARAJA et al. (43) Pub. Date: Feb. 1, 2024

(54) CONCURRENT MATRIX COMPUTATIONS USING SPLIT MATRICES WITH MULTIPLE RECONFIGURABLE PROCESSORS on Feb. 7, 2022, provisional application No. 63/307,604, filed on Feb. 7, 2022.

(71) Applicant: SambaNova Systems, Inc., Palo Alto, CA (US)
(72) Inventors: Pramod NATARAJA, San Jose, CA (US); Raghav PRABHAKAR, San Jose, CA (US)

(73) Assignee: SambaNova Systems, Inc., Palo Alto, CA (US)

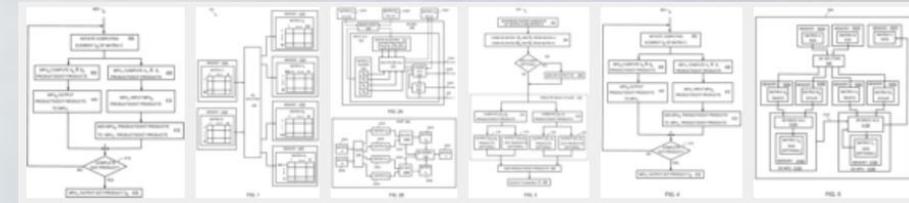
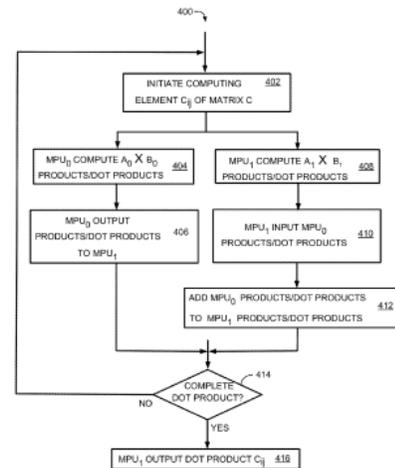
(21) Appl. No: 18/378,278
(22) Filed: Oct. 10, 2023

Related U.S. Application Data

(63) Continuation of application No. 18/105,695, filed on Feb. 3, 2023.
(60) Provisional application No. 63/307,593, filed on Feb. 7, 2022, provisional application No. 63/307,594, filed

Publication Classification
(51) Int. CL G06F 17/16 (2006.01)
(52) U.S. CL CPC G06F 17/16 (2013.01)

(57) ABSTRACT
In a method a first and a second column-split matrix comprise columns of a left side matrix and a first and a second row-split matrix comprise rows of a right side matrix. A Matrix Processing Unit (MPU) receives column elements of a row of the first column-split matrix and row elements of a column of the first row-split matrix. A second MPU receives column elements of a row of the second column-split matrix and row elements of a column of the second row-split matrix. The first and second MPU concurrently compute partial dot products of the column and row elements and a third MPU computes a sum of the partial dot products. A computing system can include the MPUs and can implement the method.



Application US18/378,278 events ?

2023-10-10 • Application filed by SambaNova Systems Inc

2023-10-10 • Priority to US18/378,278

2024-02-01 • Publication of US20240037181A1

Status • Pending

2. ¿Se puede el software proteger mediante patentes?

Ejemplos de patentes

| | | |
|---|---|--|
| (12) United States Patent | | (10) Patent No.: US 10,303,441 B2 |
| Huebra | | (45) Date of Patent: May 28, 2019 |
| (54) PROCESS AND SYSTEM FOR AUTOMATIC GENERATION OF FUNCTIONAL ARCHITECTURE DOCUMENTS AND SOFTWARE DESIGN AND ANALYSIS SPECIFICATION DOCUMENTS FROM NATURAL LANGUAGE | (56) References Cited | U.S. PATENT DOCUMENTS |
| | 7,409,337 B1* 8/2008 Potter G06F 17/2735 704/9 | |
| | 7,555,742 B2 6/2009 Iborra et al. | |
| | 8,561,014 B2 10/2013 Mengusoglu et al. | |
| (71) Applicant: Nadia Analia Huebra, Buenos Aires (AR) | 2013/0097583 A1* 4/2013 Kung G06F 8/10 717/105 | |
| (72) Inventor: Nadia Analia Huebra, Buenos Aires (AR) | 2017/0068519 A1 3/2017 Huebra | |
| (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. | FOREIGN PATENT DOCUMENTS | |
| | WO 2008131028 A2 10/2008 | |
| | * cited by examiner | |
| (21) Appl. No.: 15/141,748 | <i>Primary Examiner</i> — Hang Pan | |
| (22) Filed: Apr. 28, 2016 | (74) Attorney, Agent, or Firm — The Morales Law Firm, LLC; Joseph L. Morales | |
| (65) Prior Publication Data | (57) ABSTRACT | |
| US 2017/0003937 A1 Jan. 5, 2017 | The present invention is a computer-implemented system and method for automatic generation of Functional Architecture, business, analysis and software design documents based on phrases expressed in natural language. | |
| Related U.S. Application Data | Eligible languages and their syntactic and grammatical features can be entered into the system. The system receives the description of the case in natural language, in one of the eligible languages, through an input/output device. The processor automatically analyzes the description, automatically extracts the functional components from its morpho-syntactic structure and automatically generates functional architecture documents for use in industry. Based on the functional components of the text, the processor automatically generates design components in order to produce business, analysis, and software design specification documents. | |
| (60) Provisional application No. 62/154,093, filed on Apr. 28, 2015. | | |
| (51) Int. Cl. | | |
| <i>G06F 9/44</i> (2018.01) | | |
| <i>G06F 8/20</i> (2018.01) | | |
| <i>G06F 8/73</i> (2018.01) | | |
| <i>G06F 17/27</i> (2006.01) | | |
| (52) U.S. Cl. | | |
| CPC <i>G06F 8/20</i> (2013.01); <i>G06F 8/73</i> (2013.01); <i>G06F 17/271</i> (2013.01); <i>G06F 17/2755</i> (2013.01) | | |
| (58) Field of Classification Search | | |
| CPC G06F 8/10 | | |
| See application file for complete search history. | | |
| | 19 Claims, 13 Drawing Sheets | |

NC2017/001103
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Concedida

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|--|--|---|
| (12) United States Patent | | (10) Patent No.: US 10,379,817 B2 |
| Huebra et al. | | (45) Date of Patent: Aug. 13, 2019 |
| (54) COMPUTER-APPLIED METHOD FOR DISPLAYING SOFTWARE-TYPE APPLICATIONS BASED ON DESIGN SPECIFICATIONS | | USPC 717/105 See application file for complete search history. |
| (71) Applicants: Nadia Analia Huebra, Buenos Aires (AR); Mariano Huebra, Buenos Aires (AR) | (56) References Cited | U.S. PATENT DOCUMENTS |
| (72) Inventors: Nadia Analia Huebra, Buenos Aires (AR); Mariano Huebra, Buenos Aires (AR) | 6,289,513 B1 9/2001 Bentwich | |
| | 8,255,869 B2 8/2012 Weatherhead | |
| | 2002/0062475 A1 5/2002 Iborra et al. | |
| | 2002/0077823 A1 6/2002 Fox et al. | |
| | 2003/0028579 A1 2/2003 Kulkarni et al. | |
| | 2004/0107414 A1* 6/2004 Bronicki G06F 8/34 717/105 | |
| (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. | 2006/0015839 A1 1/2006 Owens et al. | |
| | 2007/0157179 A1* 7/2007 Seeger G06F 8/34 717/136 | |
| | (Continued) | |
| (21) Appl. No.: 15/154,660 | OTHER PUBLICATIONS | |
| (22) Filed: May 13, 2016 | Office Action, co-pending U.S. Appl. No. 15/414,748; dated May 22, 2018. | |
| (65) Prior Publication Data | (Continued) | |
| US 2017/0068519 A1 Mar. 9, 2017 | <i>Primary Examiner</i> — Anna C Deng | |
| Related U.S. Application Data | (74) Attorney, Agent, or Firm — The Morales Law Firm; Joseph L. Morales | |
| (60) Provisional application No. 62/161,216, filed on May 13, 2015. | (57) ABSTRACT | |
| (51) Int. Cl. | System and method that automatically instantiates and displays software-type applications based on software design specifications that based on the input of logical structures of information in an electronic device, automatically identifies, validates and store functional and visual design component based on software specifications stored on a database memory. The method automatically creates functional and visual models and store those models and finally automatically display on a device the application interface, functional and visual models combined with other protocols stored in memory using the processor as an instantiator. | |
| <i>G06F 9/44</i> (2018.01) | | |
| <i>G06F 8/20</i> (2018.01) | | |
| <i>G06F 8/35</i> (2018.01) | | |
| <i>G06F 9/445</i> (2018.01) | | |
| (52) U.S. Cl. | | |
| CPC <i>G06F 8/20</i> (2013.01); <i>G06F 8/35</i> (2013.01); <i>G06F 9/445</i> (2013.01) | | |
| (58) Field of Classification Search | | |
| CPC .. <i>G06F 7/78</i> ; <i>G06F 8/00-78</i> ; <i>G06F 9/44-455</i> ; <i>G06F 11/36</i> ; <i>G06F 8/20</i> ; <i>G06F 8/35</i> ; <i>G06F 9/445</i> | | |
| | 8 Claims, 17 Drawing Sheets | |

NC2017/0011542 -
Concedida

PQRS



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NC2017/0011542 -

Concedida

