Use of Artificial Intelligence in the Patent Domain

Artificial Intelligence as a Tool for IP Services @ WIPO

Standing Committee on the Law of Patents, 35th Session

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Advanced Technology Applications Center
World Intellectual Property Organization (WIPO)

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WIPO / ATAC Artificial Intelligence tools

- WIPO Translate
- Classification
- Image Segmentation
- …

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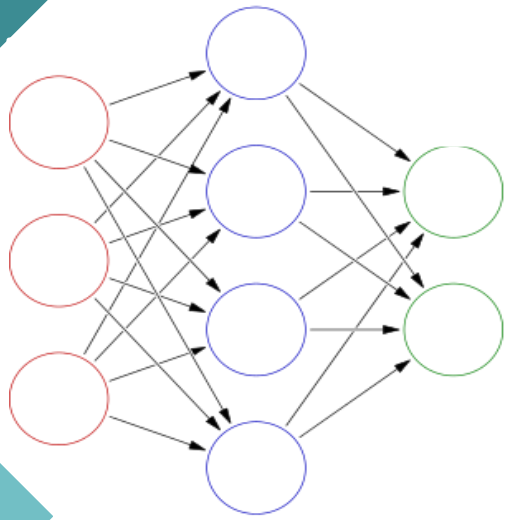
History of AI

Rules → Statistics → Neural

Traditional AI ← Machine Learning → Modern AI



Rule Based → SMT → NMT

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AI – Deep Learning

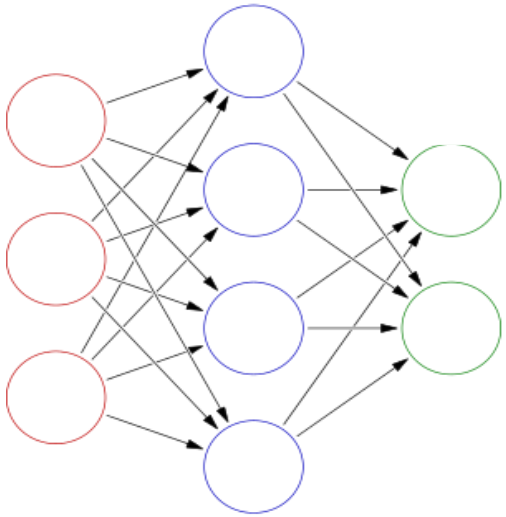
Deep Learning

Biblio
Abstract
Description
Claims
WOSAs

Language 1

Language 2

TRAIN



Neural Machine Translation Model

Language 1

TRANSLATE

Language 2

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WIPO Translate - PATENTSCOPE

1. CN204406390 - MONKEY TEST SYSTEM

National Biblio. Data | Description | Claims | Drawings | Documents

PermaLink | Machine translation

Note: Text based on automatic Optical Character Recognition processes. Please use the PDF version for legal matters

[ZH]

一种Monkey测试系统

技术领域

本实用新型涉及终端测试技术领域，尤其涉及一种Monkey测试系统。

背景技术

Monkey测试(Monkey Test)也称为搞怪测试，即使用稀奇古怪的测试方法去测试被测系统，以测试系统的稳定性。

Monkey是Android中的一个命令行工具，可以运行在模拟器或实际的测试设备中。它向系统发送伪随机的用户事件流(如按键输入、触屏输入和手势输入等)，实现对正在开发的应用程序进行压力测试。Monkey测试是Android自动化测试的一种手段，是测试软件健壮性、稳定性的快速有效方法。

当终端用户触发了例如按键输入、触屏输入和手势输入或一系列系统级别的事件时，它会进一步产生随机脉冲，因此可以用Monkey随机重复的方法去负荷测试对应软件。

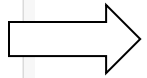
中国专利(CN104063324A)公开了一种Monkey测试方法和系统，包括有Java测试平台，安装包名称读取模块，Java Table控件模块，选取模块，Java List类模块，测试执行模块，通过各模块进行语句执行完成对智能终端系统的测试。进而通过软件模拟人手触发按键 事件，完成对手机等移动终端的Monkey测试。

但是上述专利中，单纯的使用软件去模拟人手触发事件，并不能真实的模拟用户使用环境，而且测试人员得花大量时间进行重复性的测试工作，降低了工作效率。

因此，提供一种新型的Monkey测试设备以取代纯软件模拟操作的手段成为本领域技术人员致力于研究的方向。

实用新型内容

鉴于现有技术中的不足和缺陷，本实用新型提供了一种Monkey测试系统，使其在原有Monkey测试方法的基础上进行兼容与扩展，结合机械手臂，更加逼真的去模拟用户点击触摸屏且可以自动重复运行设置好的测试脚本，减少测试人员重复性工作，在产品测试阶段找出软件中存在的问题并进行问题定位。



WIPO TRANSLATE | This text has been automatically translated using WIPO Translate and is provided for convenience purposes only. Automated text translation may contain errors. WIPO bears no responsibility for the accuracy and quality of the translation provided. | Translate All | English

National Biblio. Data | Description | Claims | Drawings | Documents

PermaLink

Note: Text based on automatic Optical Character Recognition processes. Please use the PDF version for legal matters

[ZH]

A Monkey Test System

TECHNICAL FIELD

The present utility model relates to the technical field of terminal testing, and in particular, to a Monkey testing system.

BACKGROUND

The Monkey Test (Monkey Test) is also referred to as a high-voltage test, that is, the tested system is tested by using a unique ancient test method, so as to test the stability of the system.

Monkey is a command line tool in Android, and can be run in a simulator or an actual test device. It sends a pseudo-random user event stream (such as key input, touch screen input, gesture input, etc.) to the system, so as to implement a pressure test on the application program being developed. A MongKey test is a means of Android automated testing, and is a fast and effective method for testing robustness and stability of software.

When a terminal user triggers an event such as a key input, a touch screen input and a gesture input or a series of system levels, it further generates a random pulse, so that the corresponding software corresponding to the load test can be removed by using a MongKey random repetition method.

The Chinese patent (CN 104063324A) discloses a Monkey test method and system, comprising a Java test platform, an installation package name reading module, a Java Table control module, a selection module, a Java List module and a test execution module, and the test of the intelligent terminal system is completed by performing statement execution by each module. Furthermore, a key event is triggered by simulating a human hand by means of software, so as to complete a Monkey test of a mobile terminal such as a mobile phone.

However, in the above patent, purely using software to simulate a human hand triggering event cannot truly simulate a user usage environment, and a tester can obtain a large amount of time to perform repetitive testing work, thereby reducing working efficiency.

Therefore, it is a person skilled in the art to provide a novel Monkey test device to replace a pure software simulation operation.

BRIEF DESCRIPTION OF THE DISCLOSURE

In view of the deficiencies and defects in the prior art, the present utility model provides a Monkey test system, which makes it compatible and extended on the basis of the original Monkey test method, combines mechanical arms, more realistically simulates a user to click a touch screen, can automatically and repeatedly run a set test script, reduces repeated work of testers, finds problems existing in software in a product test stage, and performs problem positioning.

The technical solutions used to solve the above technical problems are as follows:

A Monkey test system, applied to a Monkey test of a mobile terminal of an Android system, the system comprising:

a bearing device, movably disposed on a platform body and fixed with the mobile terminal;

an execution module, fixedly arranged on the platform body and in communication connection with the bearing device, and

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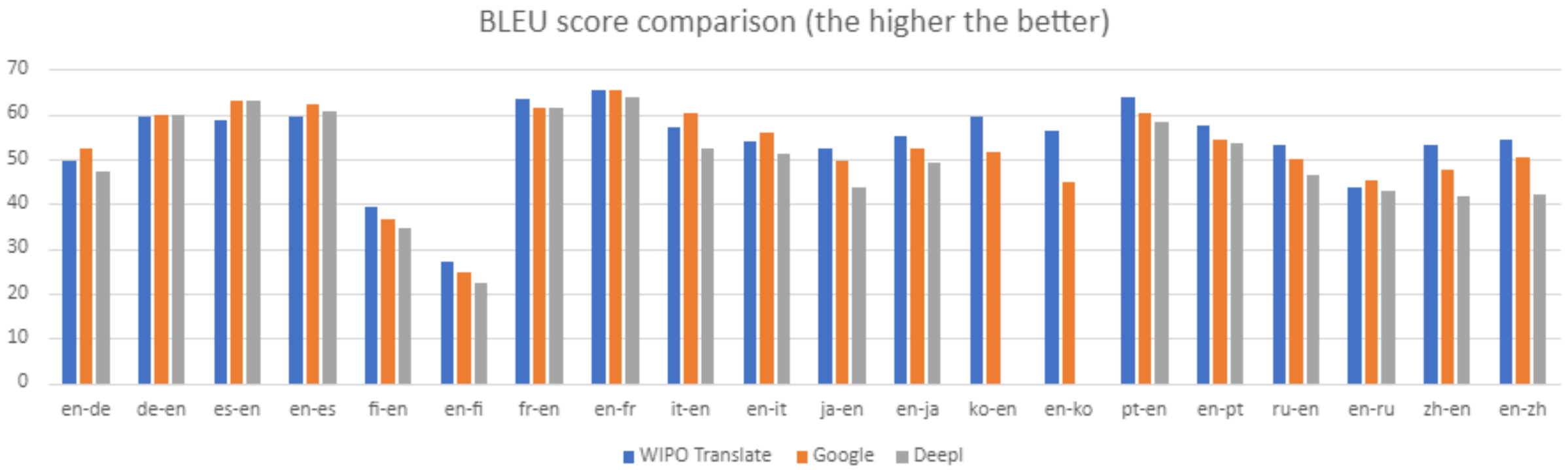
Benchmark



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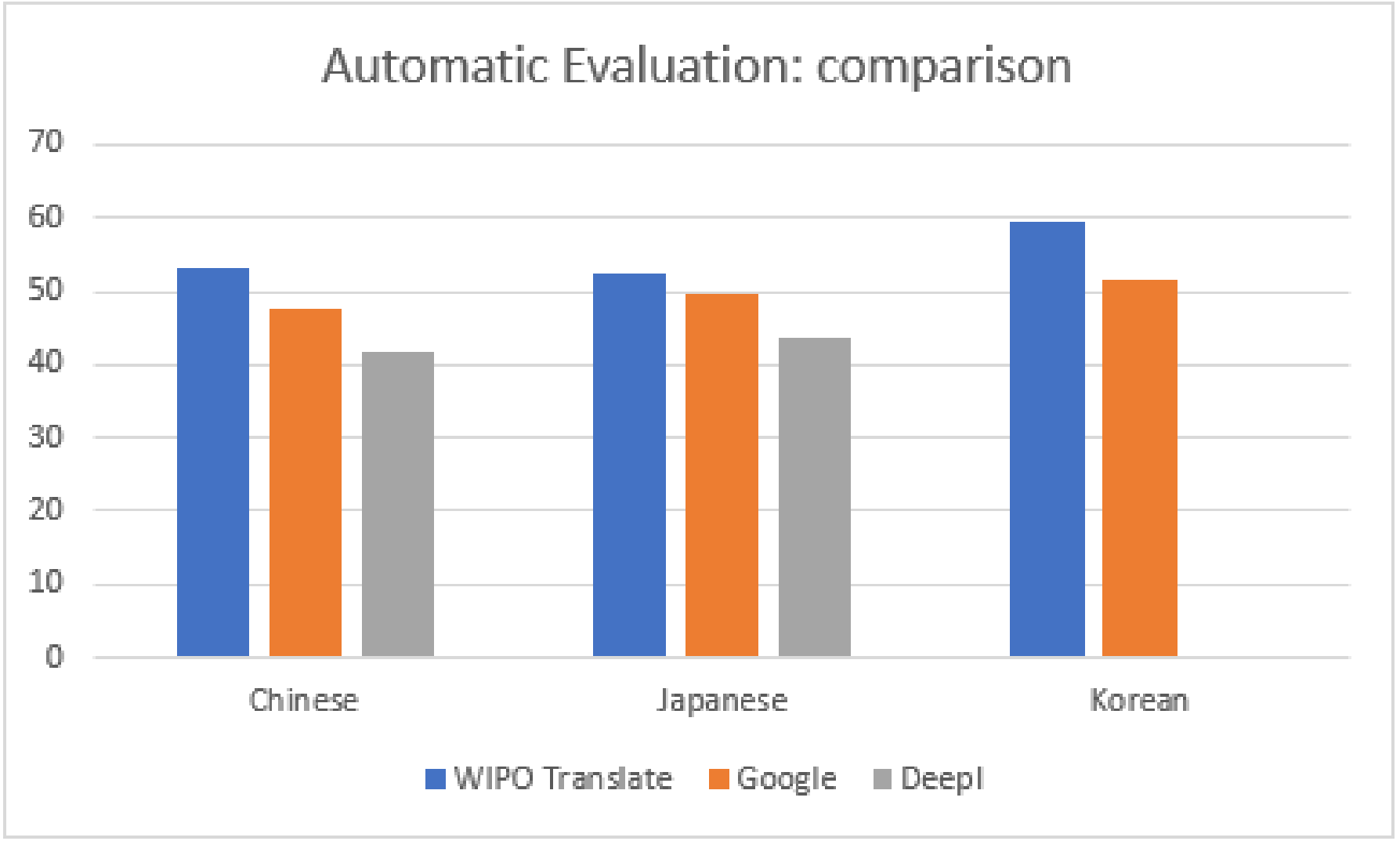
Direct Chinese / Japanese / Korean models



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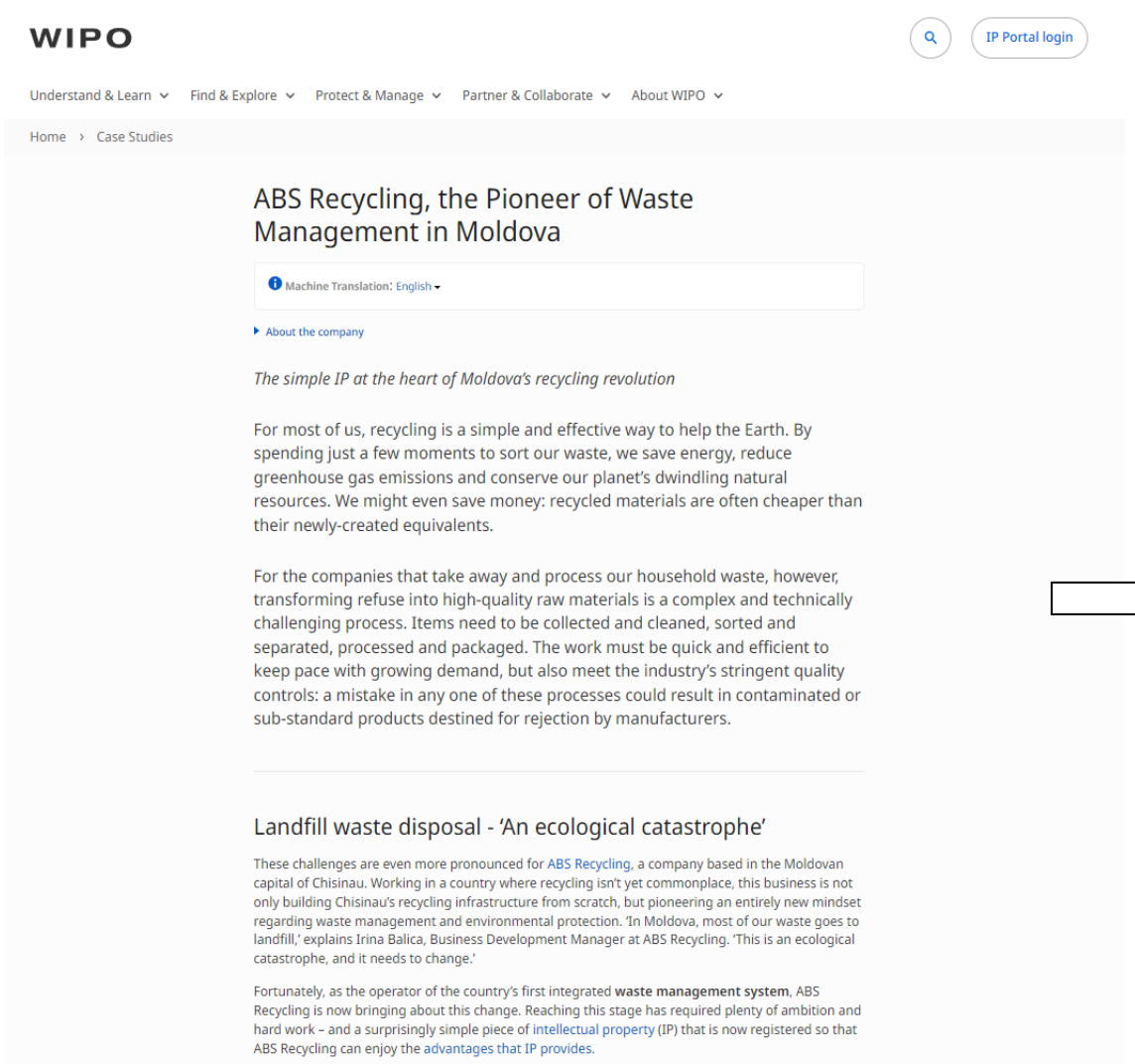
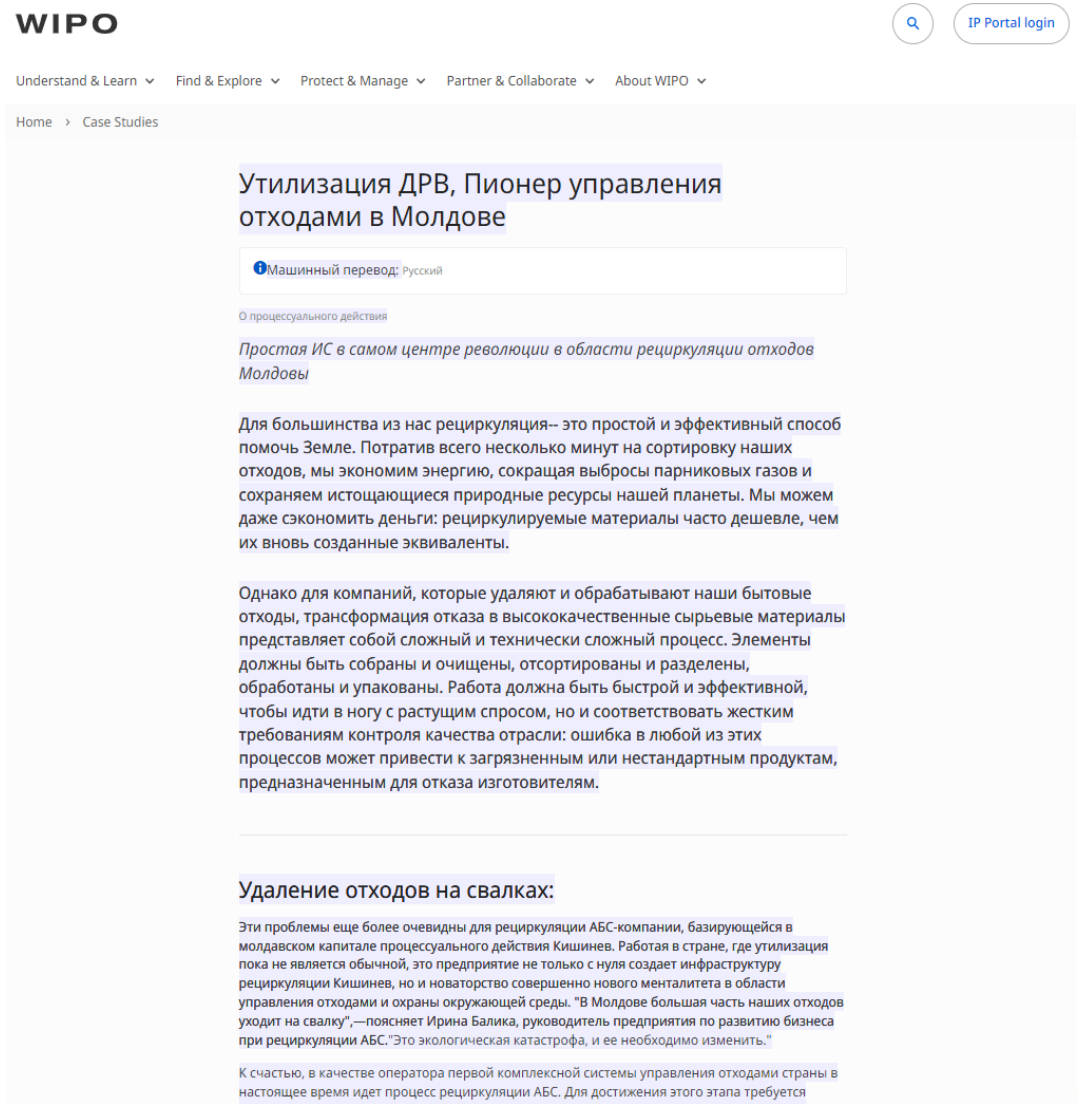
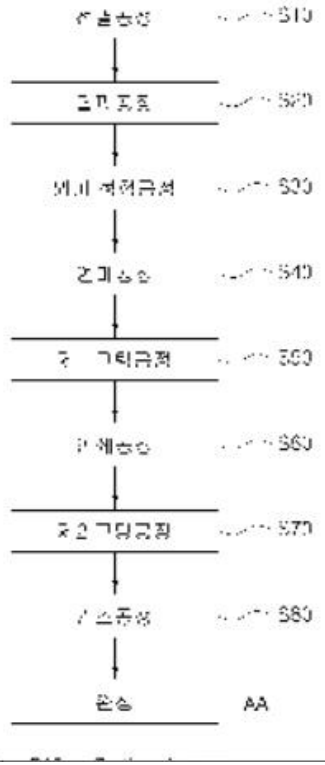




METHOD FOR RECYCLING GOLF BALL

POLLUTION & WASTE > RECYCLING & REUSE



Description | Details | Other Information

Log in for access to additional information and attachments

DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to a method for regenerating a golf ball and, more specifically, to a method for reproducing a golf ball, which removes a cover of a golf ball used in a field and plays the same so as to have the same appearance and quality as a new hole.

DETAILED DESCRIPTION OF THE INVENTION

Conventionally, after washing the surface of the golf ball using the conventional method, a brand name is printed and reused. However, in this case, only the use golf ball of a product which is hardly damaged is used, so that resources can be wasted by disposal of waste disposal and disposal of waste as well as environmental pollution.

[3]

Therefore, the method for manufacturing a recycled golf ball is disclosed in US Pat. No. 10-0205466 to remove the outer skin of the waste golf ball and to regenerate the outer skin, wherein the outer skin of the synthetic resin is softened by heat at 80-100° C, and the outer skin of the synthetic resin is cut by

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DPMA Access Asian patent literature

German Patent and Trade Mark Office

- “Access Asian patent literature”
  - Full text search in English using MT of Asian languages

- High volume translation of documents in (March 2023)
  - JP: 25.1 million
  - ZH: 39.4 million
  - KR: 6.7 million
  - WO: 1 million
  - + weekly publications

- ~ 1 Mio pages per day ~ 50.000 documents per day

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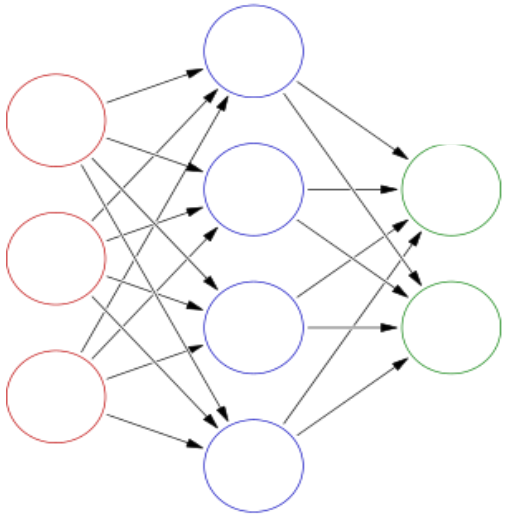
PCT FATE



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TRANSLATE

All languages

PCT Documents

English

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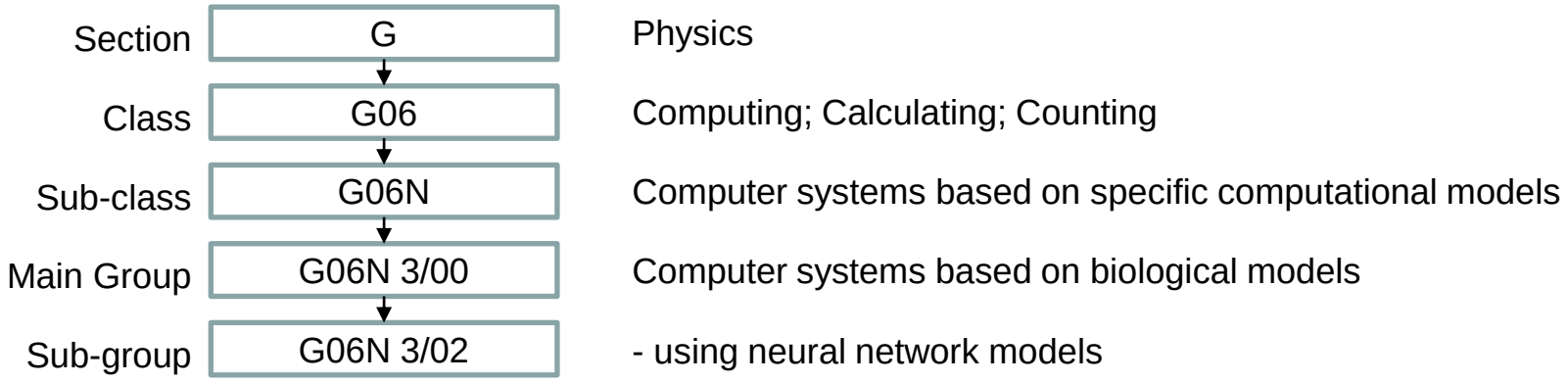
International Patent Classification

- A “**hierarchical** system of language independent symbols for the classification of patents…”



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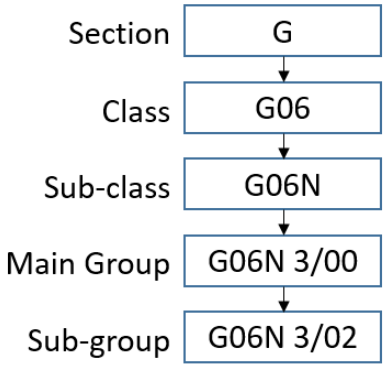
IPC Classification Accuracy

- Trained specifically on 27M WIPO documents (title + abstract)
- Using neural networks for classification

IPC depth	Example	Top-3*	Top-5*	Comment
Sub-class	G06N	> 95 %	> 98 %	
…	…	…	…	
Sub-group	G01N 0033/543000	< 80 %	> 80 %	Full IPC



* Top-X Accuracy: considered correct if any 1 of the top X predictions is correct.

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FP:(cherry tree)

1,054 results | Offices all | Languages en | Stemming true | Single Family Member false | Include NPL true

Analysis

Filters | Charts

Countries		Applicants		Inventors		IPC code	
China	549	CHERRY TREE MACHINE COMPANY LT	37	KVASENKOV OLEG IVANOVICH (RU)	16	A01G	333
PCT	210	JENKINS PETER DAVID	23	LI KAIFENG	13	A61K	144
Japan	65	BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY	19	QING XUEGANG	12	A61P	89
Russian Federation	54	GEORGE DOWELL	18	GU DAJUN	9	A23L	65
United Kingdom	52	CORNELL UNIVERSITY	13	ZHANG QIJING	9	A01C	59
Non-Patent Literature	37	MICROSOFT CO	12	ZHOU CHAOHUI	9	A01N	52
Republic of Korea	29	SICHUAN GUANTENG TECH CO LTD	11	AI JIAYIN	8	C05G	52
United States of America	15	MINIFLEX LIMITED	10	CHEN FEI	7	A01H	41
European Patent Office	8	POWELL KEVIN J	10	CHERRY COLIN A.	7	A01P	36
India	6	THOMAS TURNER MERCER	9	GAO XIUMEI	7	G06F	34

RTY

1. 10.1109/ASYU56188.2022.9925332 CHERRY TREE DETECTION WITH DEEP LEARNING

Int.Class A01G 23/099 **Publisher** IEEE **Journal** Intelligent Systems and Applications Conference (ASYU)

In recent years, many studies have been conducted on artificial intelligence. Artificial-intelligence-based applications appear in many fields, such
and supply are critical with the increase in the world population and global warming. For this reason, it is seen that various artificial-intelligenc
intelligence-based Cherry tree detection was carried out using the deep learning method. A DJI Mavic air drone collected images of cherry trees ir
training was carried out with YOLOv5m, YOLOv5s, and YOLOv5x models. As a result of the training, F1 scores of 94.20%, 98.0%, and 95.9% were obt
were shared comparatively.

2. 10.3390/ANTIOX11050813 PHENOLIC COMPOUNDS EXTRACTED FROM CHERRY TREE (PRUNUS AVIUM) BRANCHES: IMPACT C

Int.Class A61K 8/97 **Publisher** MDPI **Journal** Antioxidants

Cherry tree branches (Prunus avium var burlat Rosaceae) are agricultural by-products that are often neglected, yet they are rich in phenolic compo
cherry tree branches were evaluated for their use in cosmetics, particularly for their antioxidant, anti-tyrosinase, and antimicrobial activities. San
percentages and different temperatures. Fourteen phenolic compounds were identified in the extracts by mass spectrometry. Three major compounc
phenolic compounds. Optimal operating conditions maximizing the content of phenolic compounds were determined using a one factor at a time (
conditions also showed the highest antioxidant and anti-tyrosinase activities, certainly due to a high catechin content. Although the antimicrobial a
nonetheless interesting. According to these results, the extracts of cherry tree branches could be used in cosmetics for their interesting properties.

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1. NPL395019116 - CHERRY TREE DETECTION WITH DEEP LEARNING

NPL Biblio. Data

PermaLink Machine translation

Publisher
IEEE

Journal
Intelligent Systems and Applications Conference (ASYU)

Publication Number
10.1109/ASYU56188.2022.9925332

Publication Date
09.09.2022

IPC
A01G 23/099 | A01G 23/00 | A01G 23/10 | A01G 17/10 | A01G 23/08

Authors
Ozer, Tolga

Title
(EN) Cherry Tree Detection with Deep Learning

Abstract
(EN) In recent years, many studies have been conducted on artificial intelligence. Artificial-intelligence-based applications appear in many fields, such as the defense industry, agriculture, transportation, and health. Food production and supply are critical with the increase in the world population and global warming. For this reason, it is seen that various artificial-intelligence-based applications in agriculture are increasing today. In this study, artificial-intelligence-based Cherry tree detection was carried out using the deep learning method. A DJI Mavic air drone collected images of cherry trees in the Afyonkarahisar. A cherry tree dataset was created using these images. The training was carried out with YOLOv5m, YOLOv5s, and YOLOv5x models. As a result of the training, F1 scores of 94.20%, 98.0%, and 95.9% were obtained. The experimental results obtained as a result of the training of the models were shared comparatively.

Link
https://ieeexplore.ieee.org/document/9925332

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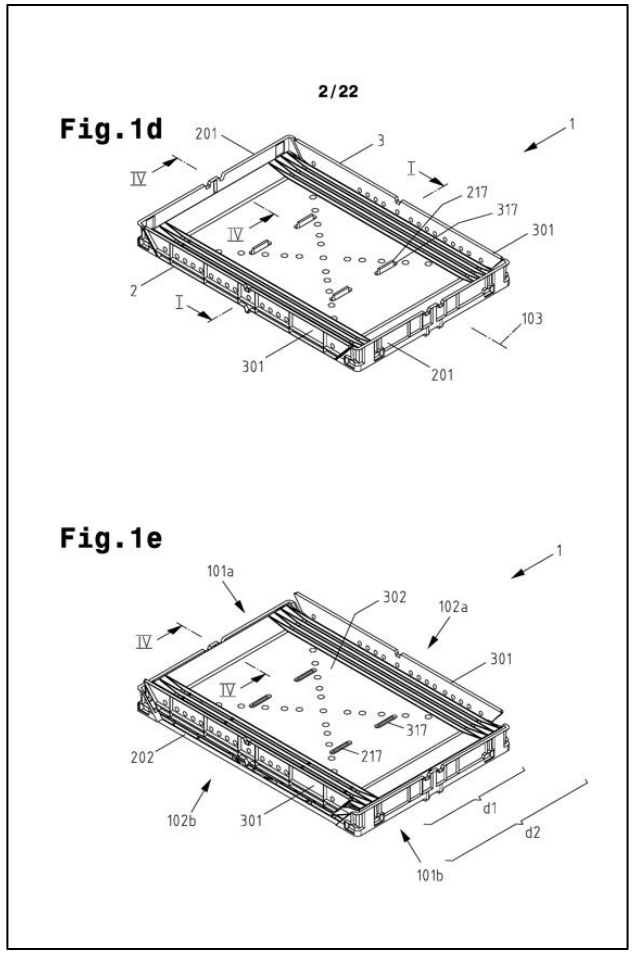
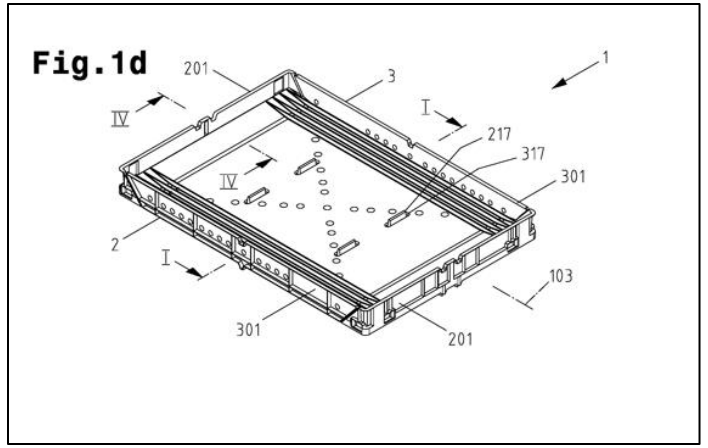
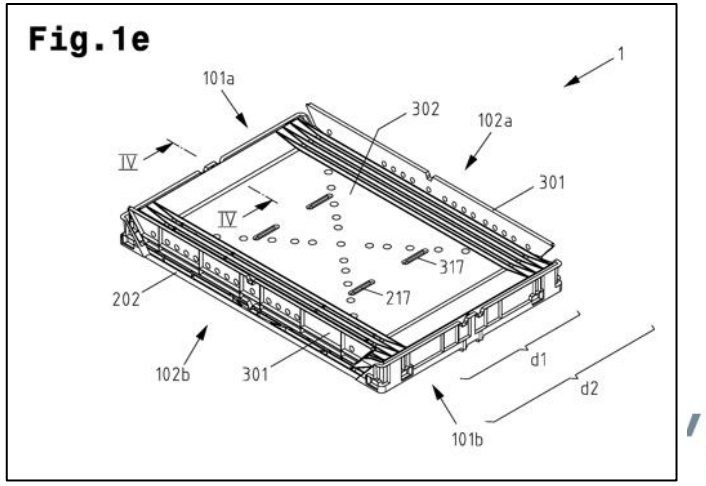
Image Segmentation







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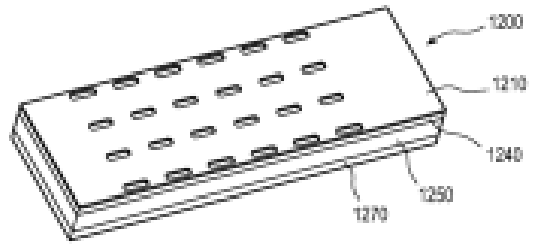

FIG. 12A

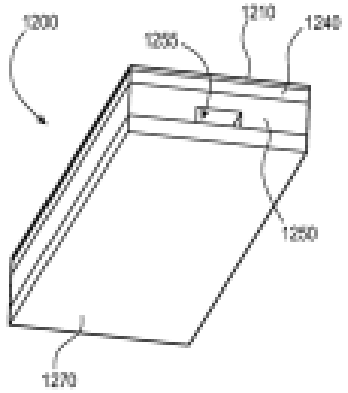

FIG. 12B

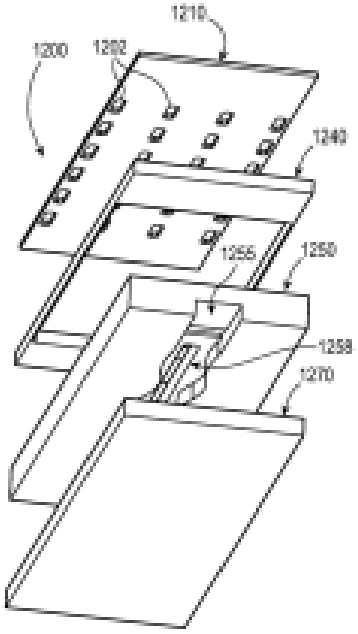

FIG. 12C

Segmentation

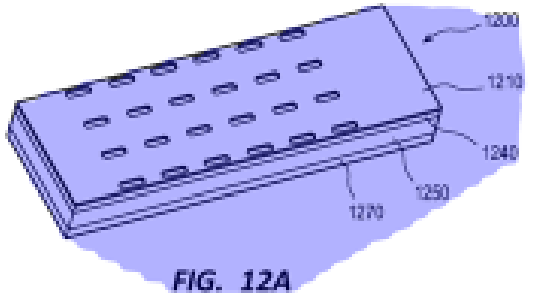

FIG. 12A

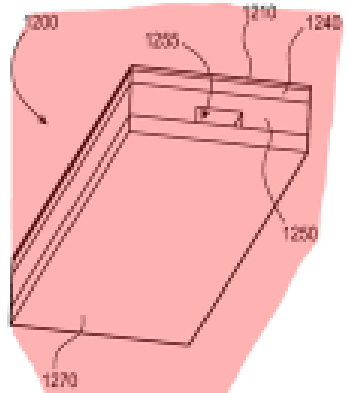

FIG. 12B

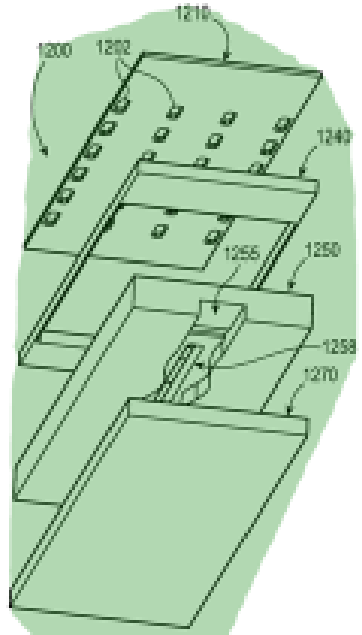

FIG. 12C

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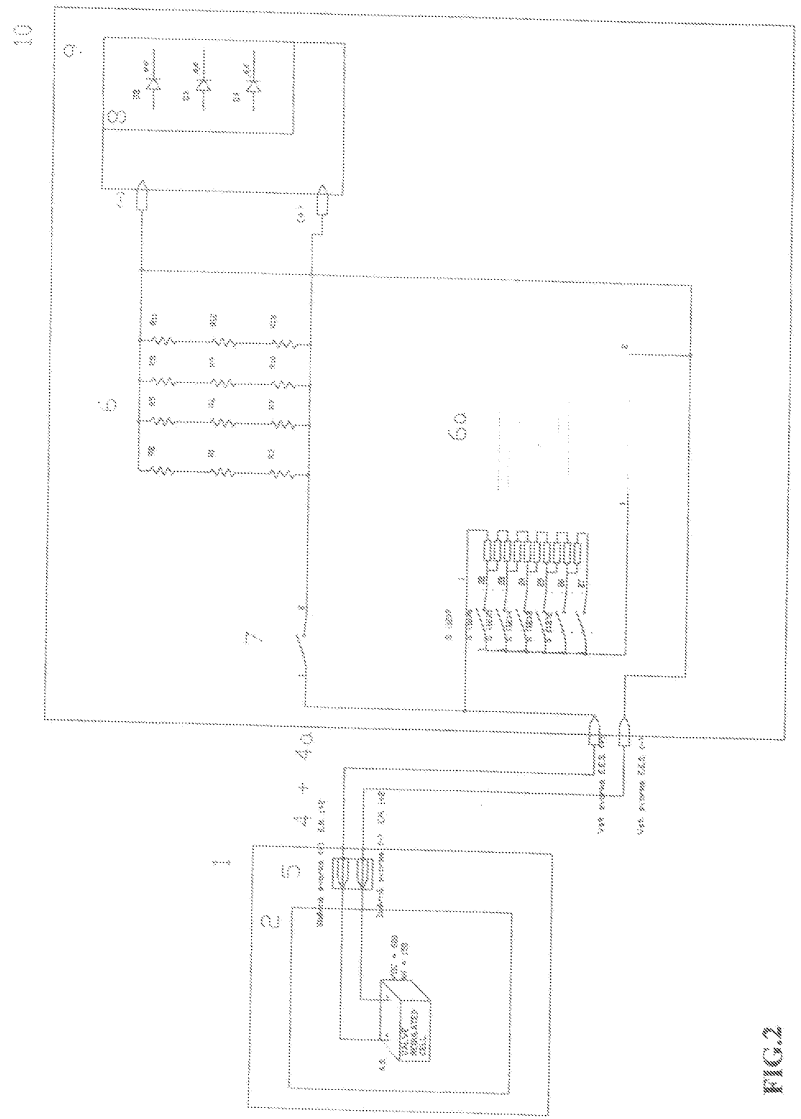

FIG.2

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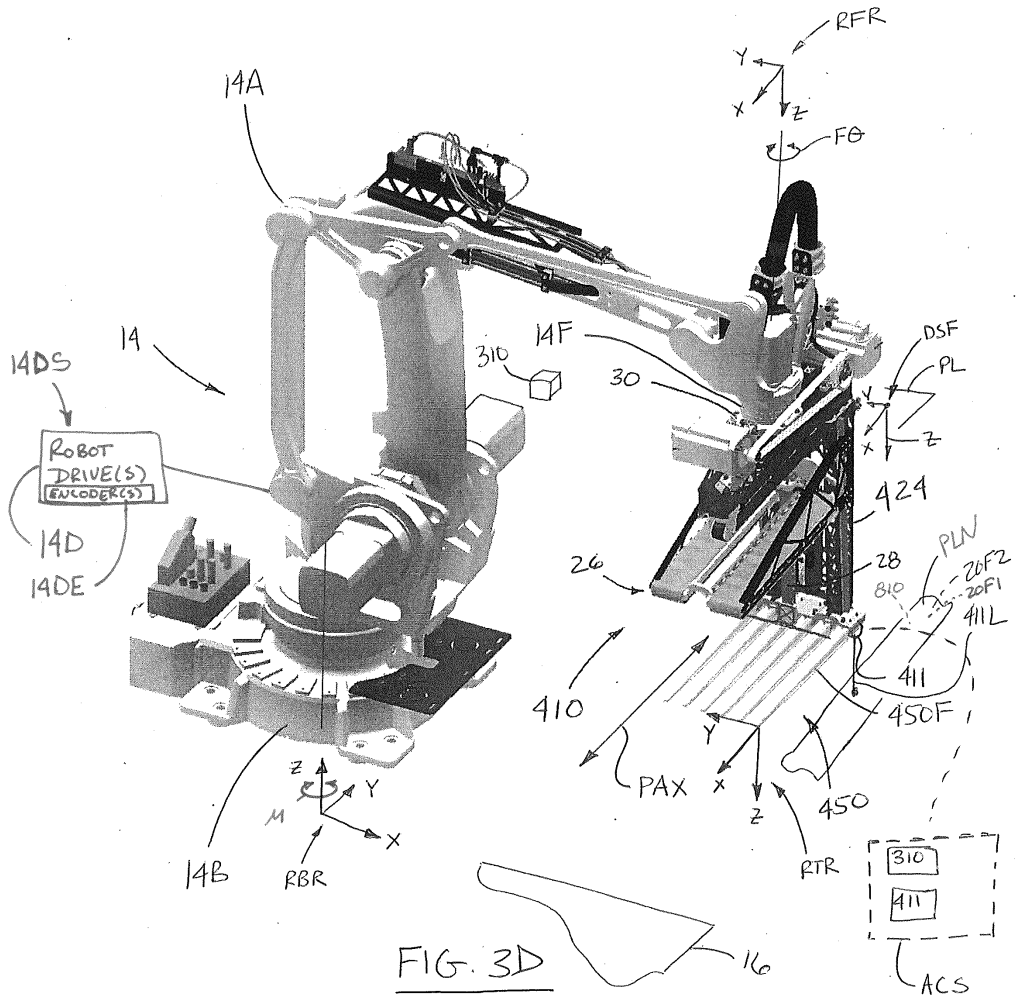

FIG. 3D

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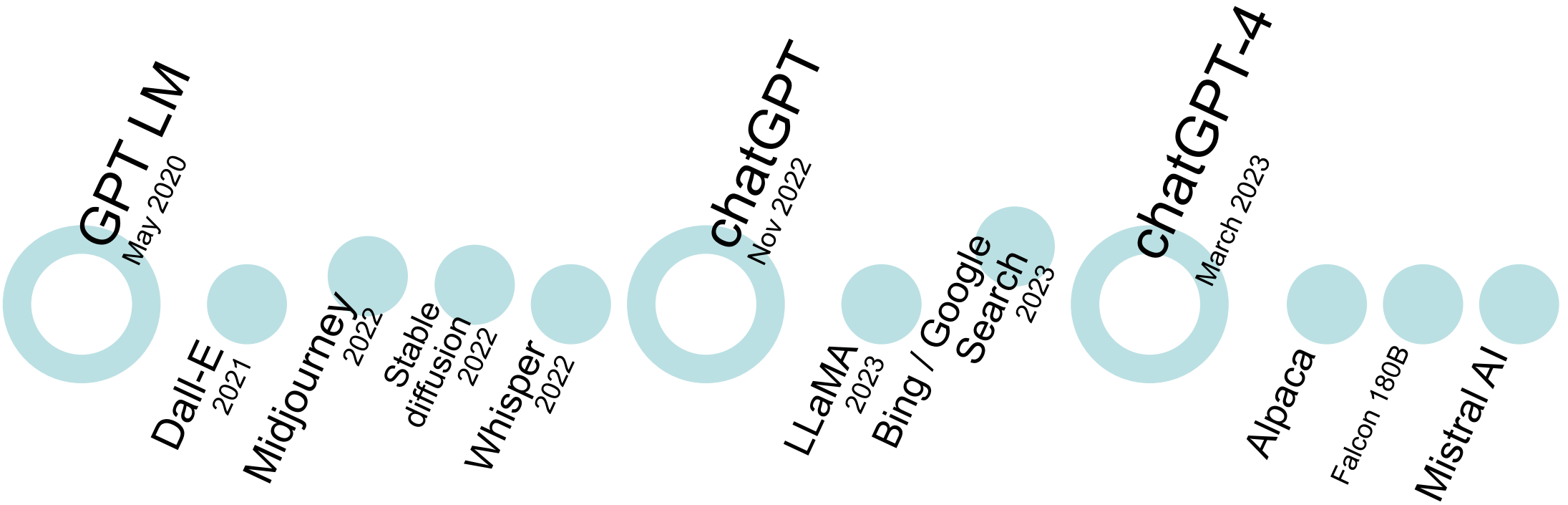
Exploration of Large Language Models



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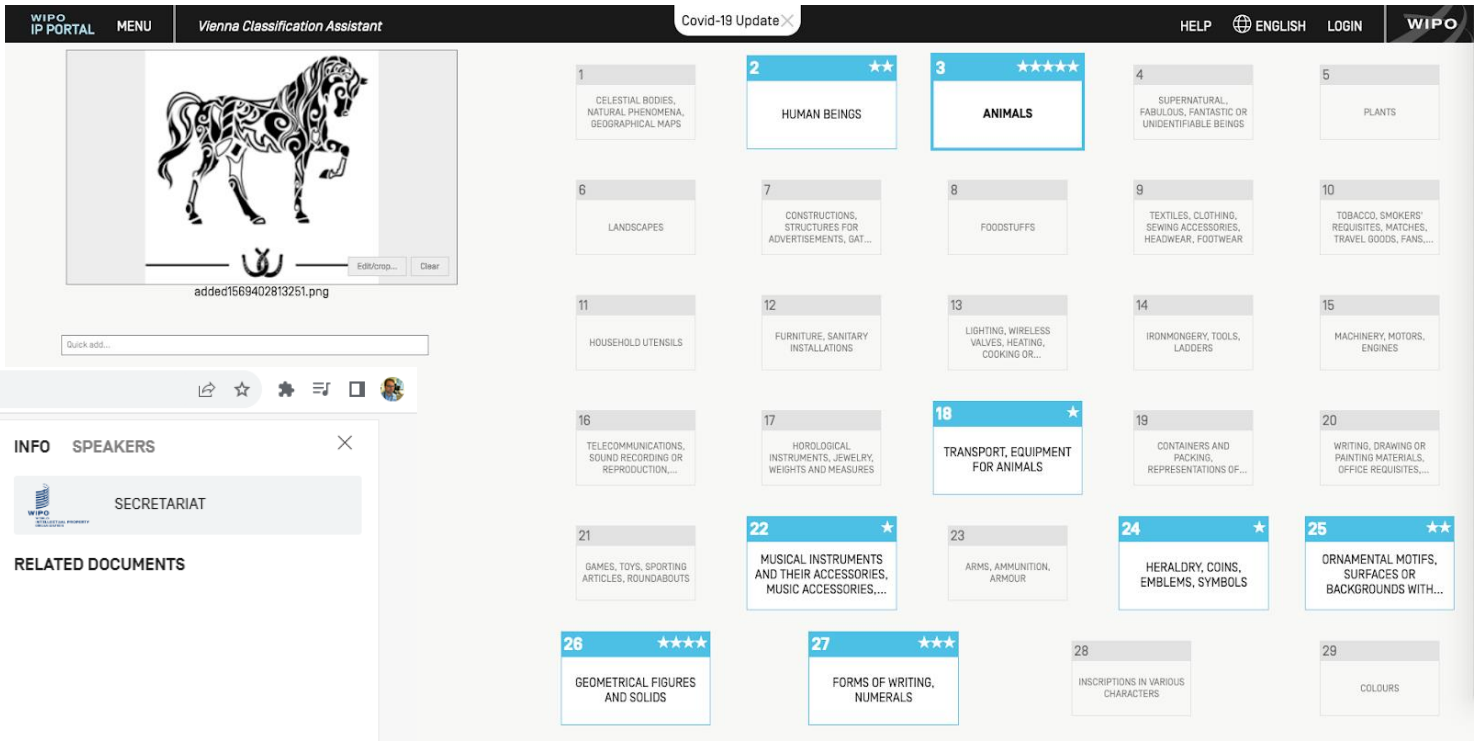
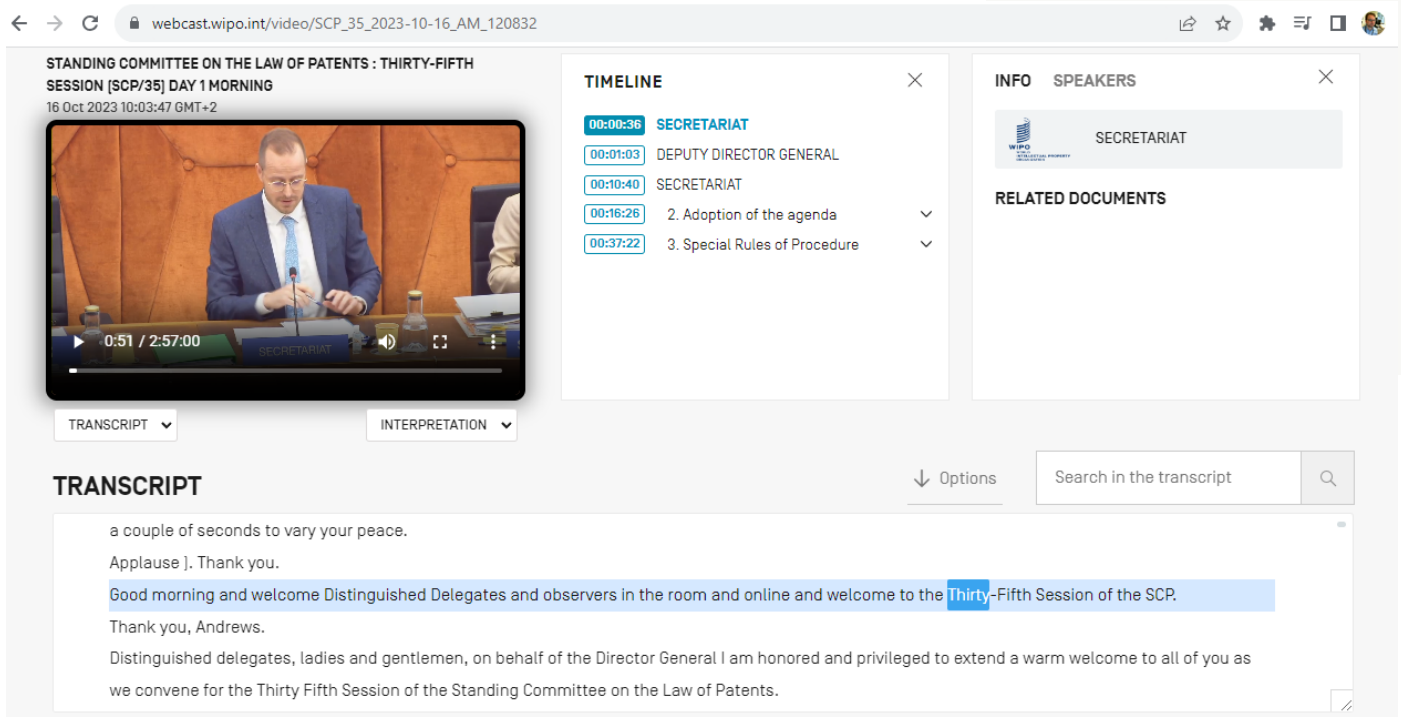
Other Projects

www3.wipo.int/bnd-api/vienna-classification-assistant



webcast.wipo.int



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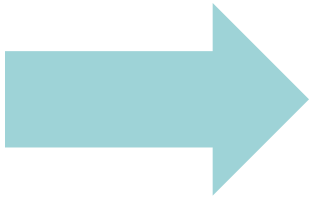
Why own and train our own systems?

- Specialized for the task and domain, highly customized
- High Confidentiality requirements
- Integration with other systems
- Cost effective, especially at scale



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Our strategy, what makes successful projects

- Careful choice of potentially successful projects
- Business driven - importance of integration
- Expectation management and proper evaluation

- Quick prototyping “**fail fast to innovate faster**”

- Technological survey, academic network
- Synergies through data sharing and exchange
- Open source technologies

- Use “recent/clean/big” data

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Thank you