



SmartLivingPlat

Plataforma Tecnológica de la Domótica
y las Ciudades Inteligentes



Boletín de Vigilancia Tecnológica

NOVIEMBRE - DICIEMBRE 2023

SMART BUILDINGS
SMART CITIES
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Ayuda PTR2022-001371 financiada por:



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NOTICIAS

How I built a fully offline smart home, and why you should too

Publicada en androidauthority.com, 6/01/2024

As someone who grew up with a dial-up internet connection, I get anxious at the thought of any always-online product or service. My smart home is no different — I rely on it to automatically cool the room when I return home, light up my closet when I open the door, and match the color temperature of my lights to the sun's position. Why should any of that require an internet connection? That train of thought is exactly what led me to build a fully offline smart home that doesn't hinge on any third-party servers whatsoever. And here's how you can do it, too.

[Veure més...](#)



The Best Smart Home Devices for 2024

Publicada en pcmag.com, 31/12/2023

Make your home a little more livable—and a lot more automated—by adding appliances and devices you can control from anywhere. We've tested hundreds of smart home products in more than 20 categories to help determine which ones are best for every room in (and out of) the house.

[Veure més...](#)



Portable, non-invasive, mind-reading AI turns thoughts into text

Publicada en uts.edu.au, 12/12/2023

Researchers from the GrapheneX-UTS Human-centric Artificial Intelligence Centre have developed a portable, non-invasive system that can decode silent thoughts and turn them into text. In a world-first, researchers from the GrapheneX-UTS Human-centric Artificial Intelligence Centre at the University of Technology Sydney (UTS) have developed a portable, non-invasive system that can decode silent thoughts and turn them into text.

[Veure més...](#)



New York City opens 8,500 acres of parking lots to solar canopies

Publicada en electrek.co, 8/12/2023

New York City has relaxed its zoning laws for renewables, including opening over 8,500 acres of parking lots for solar canopies. The New York City Council approved the “City of Yes for Carbon Neutrality,” a game-changing zoning code update that will make it easier to deploy clean energy and EV chargers, along with other sustainable initiatives.

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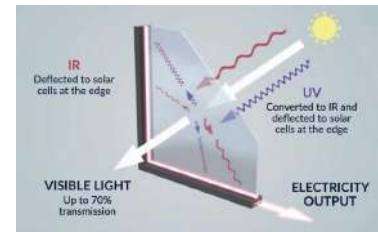


Solar Panels Beware: Solar Glass is Here

Publicada en op.europa.eu, 26/10/2023

In an era where renewable energy sources are becoming necessities, new innovations are constantly emerging that allow us to harness nature's resources more efficiently. One of these innovations is solar glass, the likes of which companies like ClearVue PV are currently developing. This new technology generates electricity through glass, potentially redefining the functionality and aesthetics

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EMPRESAS Y MERCADOS

StyleDrop: Text-to-image generation in any style

Publicada en blog.research.google, 15/12/2023

Text-to-image models trained on large volumes of image-text pairs have enabled the creation of rich and diverse images encompassing many genres and themes. Moreover, popular styles such as “anime” or “steampunk”, when added to the input text prompt, may translate to specific visual outputs. While many efforts have been put into prompt engineering, a wide range of styles are simply hard to describe in text form due to the nuances of color schemes, illumination, and other characteristics.

[Veure més...](#)



Threads launches for nearly half a billion more users in Europe

Publicada en theverge.com, 14/12/2023

Following its launch in over 100 countries — including the US and UK — in mid-2023, Meta’s Twitter competitor has made it to the EU and its 448 million citizens. Meta’s Twitter competitor, Threads, is now available in the European Union, CEO Mark Zuckerberg has announced. “Today we’re opening Threads to more countries in Europe,” Zuckerberg wrote in a post on Threads.

[Veure més...](#)



Stanford and Meta inch towards AI that acts human with new 'CHOIS interaction model

Publicada en venturebeat.com, 8/12/2023

Researchers from Stanford University and Meta's Facebook AI Research (FAIR) lab have developed a breakthrough AI system that can generate natural, synchronized motions between virtual humans and objects based solely on text descriptions.

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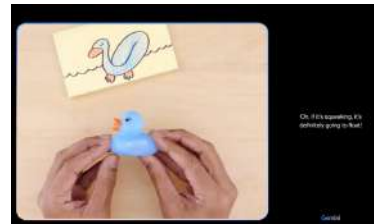


Watch Google's new AI assistant show off its capabilities in mind-blowing demo

Publicada en boingboing.net, 6/12/2023

Google just introduced Gemini, its new artificial intelligence assistant, and a video demonstration revealed its incredible capabilities in interpreting and responding to various visual and verbal cues. Here's a closer look at the intriguing interaction between a human and Gemini that Google posted to YouTube.

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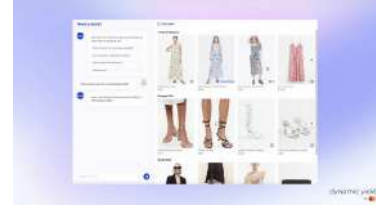


Mastercard launches Shopping Muse, an AI-powered shopping assistant

Publicada en techcrunch.com, 4/12/2023

Mastercard is launching a new generative AI shopping tool called “Shopping Muse” that is designed to help users get personalized product recommendations. The tool is powered by Dynamic Yield, a personalization company that was acquired by Mastercard in April 2022. Mastercard says the idea behind Shopping Muse is to “revolutionize how customers search for and discover products in a retailer’s digital catalogue.”

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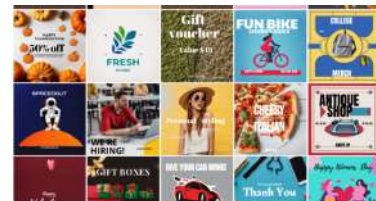


Goodbye, graphic designers? COLE combines multiple AIs to generate editable designs on demand

Publicada en venturebeat.com, 30/11/2023

Graphic designers and those who rely upon them take note: a new tool is here that could seemingly disrupt the profession for good. Called COLE, named in honor of Henry Cole, recognized as the creator of the first graphical Christmas card in 1843, the new tool allows users to type in a graphic design project idea — say, “a poster for an upcoming Winter Holiday concert with people playing instruments in warm clothes among falling snow” — and have an AI generate not only the image, but the text to support it baked in.

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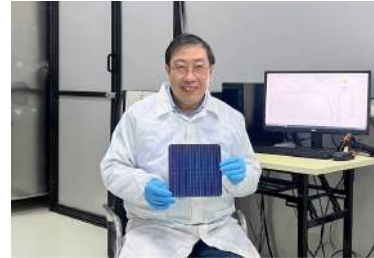


La tecnología TOPCon 4.0 de DAS Solar establece un récord de eficiencia

Publicada en ecoinventos.com, 22/11/2023

El fabricante chino de módulos DAS Solar ha batido un récord mundial con sus células solares TOPCon tipo n , impulsadas por la tecnología interna TOPCon 4.0. Según los informes de certificación del Centro Nacional de Pruebas y Medición de la Industria Fotovoltaica (NPVM) de China, estas células han alcanzado una calificación de eficiencia del 26,33%. Esto no sólo supera el récord anterior de DAS Solar del 24,24% establecido en mayo, sino que también establece un nuevo récord mundial para la eficiencia de las células solares TOPCon de gran superficie.

[Ver más...](#)



UPS opens huge automated warehouse, where robots outnumber people 15 to 1

Publicada en wsws.org, 21/11/2023

United Parcel Service opened a new, technologically advanced warehouse last week. The 900,000 square foot facility, the company's largest, will operate with over 3,000 robots doing the heavy lifting. The warehouse will initially employ 200 workers, but that number may eventually grow to 500. All of them are non-union jobs..

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Emerson Completes Acquisition of NI, Advancing Global Automation Leadership

Publicada en prnewswire.com, 11/11/2023

Emerson (NYSE: EMR) today announced it has closed its acquisition of NI (Nasdaq: NATI), a leading provider of software-connected automated test and measurement systems, at an equity value of \$8.2 billion. The acquisition of NI advances Emerson's position as a global automation leader and expands its opportunity to capitalize on key secular trends like nearshoring, digital transformation, and sustainability and decarbonization.

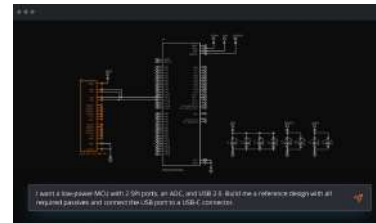
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SnapEDA becomes SnapMagic and debuts an AI copilot to help automate circuit board design

Publicada en techcrunch.com, 10/11/2023

SnapEDA, a platform for electrical engineers to easily access electric component data, is rebranding as SnapMagic and introducing a new suite of features that could be a game changer for electronics design. If you're an electrical engineer, you've likely heard of (or use) SnapEDA.

[Ver más...](#)



Announcing Grok

Publicada en x.ai, 4/11/2023

Grok is an AI modeled after the Hitchhiker's Guide to the Galaxy, so intended to answer almost anything and, far harder, even suggest what questions to ask! Grok is designed to answer questions with a bit of wit and has a rebellious streak, so please don't use it if you hate humor!

[Ver más...](#)

PATENTES

Systems and methods for generating natural language using language models trained on computer code

Publicada en espacenet, 18/01/2024

Solicitante: OPENAI OPCO LLC [US]

Disclosed herein are methods, systems, and computer-readable media for generating natural language based on computer code input. In an embodiment, a method may comprise one or more of: accessing a docstring generation model configured to generate docstrings from computer code

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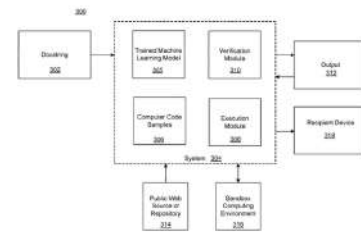


FIG. 3

User interface for operating artificial intelligence experiments

Publicada en espacenet, 07/12/2023

Solicitante: SONY GROUP CORP [JP]; SONY CORP AMERICA [US]

A user interface (UI), for analyzing model training runs, tracking and visualizing various aspects of machine learning experiments, can be used when training an artificial intelligent agent in, for example, a racing game environment. The UI can be web-based and can allow researchers to easily see the status of their experiments.

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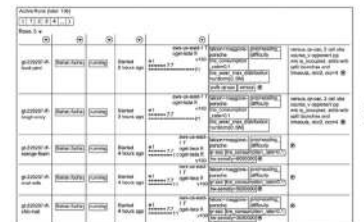


FIG. 2

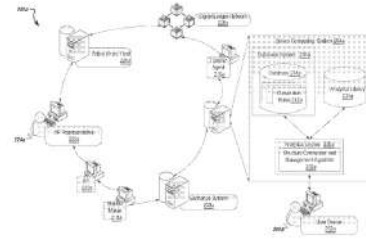
Asset-backed digital tokens

Publicada en espacenet, 14/12/2024

Solicitante: PRECIDIAN INVEST LLC [US]

Methods, systems, and apparatus, including computer programs encoded on computer-storage media, for, e.g., generating a private cryptographic key and public cryptographic key as a cryptographic key pair; storing the private cryptographic key and the public cryptographic key in a trusted execution environment (TEE)

[Veure més...](#)



Managing a machine learning process

Publicada en espacenet, 30/11/2024

Solicitante: ERICSSON TELEFON AB L M [SE]

The present disclosure relates to a computer-implemented method (100) for managing a machine learning (ML) process. The method comprises: obtaining (110) an indication of a performance of the ML process resulting from application of a first policy to an environment comprising wireless devices, wherein the first policy is for selecting a first set of the wireless devices to participate in the ML process

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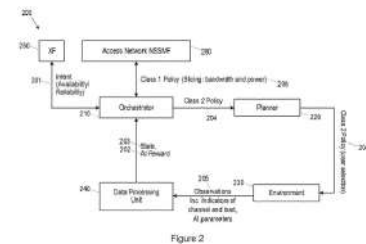


Figure 2

Integrated Computer Based Tools and Techniques for Health and Dental Care Practice Management

Publicada en espacenet, 02/11/2023

Solicitante: VIRTUAL FRONT DESK LLC [US]

A system (or architecture) for facilitating dental or other health care provider services, associated tasks and automated functionalities is provided as an integrated platform including an integrated combination of: a smart Interactive Voice Response (IVR) system, an automated front desk, a voice assisted integrated practice management system (PMS), automated billing and compliance, custom doctor portals, and automated reporting.

[Veure més...](#)



FIG. 1

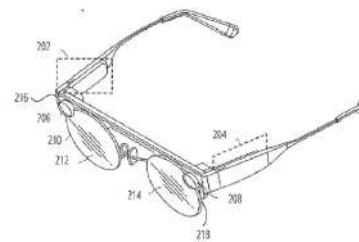
Intelligent actuated temple attachments

Publicada en espacenet, 19/10/2023

Solicitante: SNAP INC [US]

Systems and methods herein describe an actuator control system for intelligent actuated temple attachments on a pair of eyeglasses. The actuator control system receives current measurements corresponding to a length of eyeglass temple attachments on a pair of eyeglasses, and generates predicted measurements for the temple attachments using a machine learning model.

[Veure més...](#)



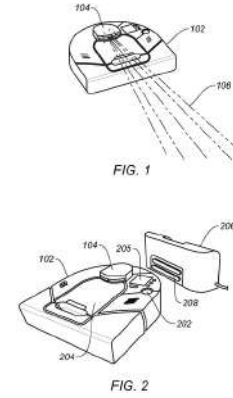
Obstacle avoidance using fused depth and intensity for NNT training

Publicada en espacenet, 18/10/2023

Solicitante: VORWERK CO INTERHOLDING [DE]

Embodiments provide a method for obstacle avoidance in a mobile robot. Images of objects are captured with mobile robot image sensors with a floor level perspective. Data corresponding to the images is used to train a neural network. The identified objects are classified by indicating whether the objects are a potential hazard. In one embodiment, an image sensor on a robot provides intensity and depth data for each of a plurality of pixels of the images. The intensity and depth data are fused to produce fused data.

[Veure més...](#)



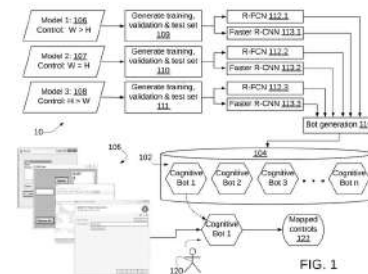
Automated detection of controls in computer applications with region based detectors

Publicada en espacenet, 03/10/2023

Solicitante: AUTOMATION ANYWHERE INC [US]

A system (or architecture) for facilitating dental or other health care provider services, associated tasks and automated functionalities is provided as an integrated platform including an integrated combination of: a smart Interactive Voice Response (IVR) system, an automated front desk, a voice assisted integrated practice management system (PMS), automated billing and compliance, custom doctor portals, and automated reporting.

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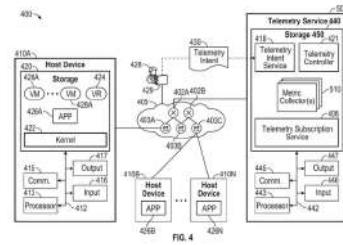
Machine Learning for rule evaluation

Publicada en espacenet, 18/10/2023

Solicitante: JUNIPER NETWORKS INC [US]

A performance monitoring system includes a metric collector configured to receive, via metric exporters, telemetry data comprising metrics related to a network of computing devices. A metric time series database stores related metrics. An alert rule evaluator service is configured to evaluate rules using stored metrics. The performance monitoring system may include a machine learning module and is configured to determine optimized metric collection sampling intervals and rule evaluation intervals.

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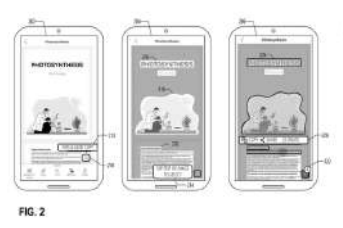
Cross-application componentized document generation

Publicada en espacenet, 14/12/2023

Solicitante: MICROSOFT TECHNOLOGY LICENSING LLC [US]

A method may include presenting content of an electronic document on a mobile computing device within a mobile version of a computing application; classifying, using a set of machine learning models, by the mobile computing device, the content into a plurality of components; after the classifying, highlighting the plurality of components within the mobile version of the computing application

[Veure més...](#)



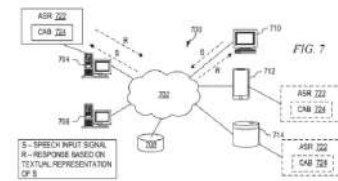
Ontology Driven Contextual Automated Speech Recognition

Publicada en espacenet, 09/11/2023

Solicitante: IBM [US]

An automatic speech recognition (ASR) computing system and methodology are provided to predict a textual representation of received input speech data. A context acoustic biasing (CAB) engine of the ASR computing system receives historical textual content and an ontology data structure. The CAB engine matches key terms identified in the historical textual content with concepts present in the ontology data structure to generate a contextual term list data structure

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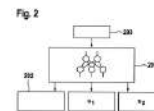
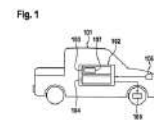
Method for controlling a robot device

Publicada en espacenet, 28/12/2023

Solicitante: BOSCH GMBH ROBERT [DE]

In accordance with various embodiments, a method for controlling a robot device is described, comprising receiving sensor data, processing the sensor data by way of a machine learning model to form a processing result for a control of the robot device, determining a first value, representing a confidence of the machine learning model that the processing result is correct, determining a second value

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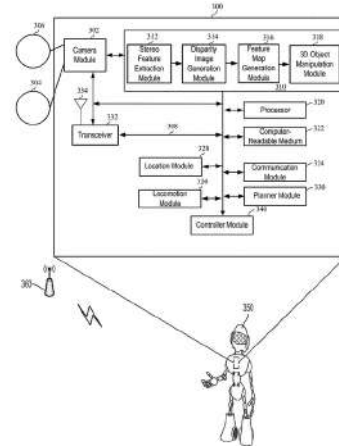
System and method for unknown object manipulation from pure synthetic stereo data

Publicada en espacenet, 14/12/2023

Solicitante: TOYOTA RES INST INC [US]; TOYOTA MOTOR CO LTD [JP]

A method for training a neural network to perform 3D object manipulation is described. The method includes extracting features from each image of a synthetic stereo pair of images. The method also includes generating a low-resolution disparity image based on the features extracted from each image of the synthetic stereo pair of images. The method further includes generating, by the neural network, a feature map based on the low-resolution disparity image and one of the synthetic stereo pair of images.

[Veure més...](#)



Automatic content generation

Publicada en espacenet, 07/12/2023

Solicitante: MICROSOFT TECHNOLOGY LICENSING LLC [US]

Systems and methods are directed to generating content that is contextually relevant in a writing style of a user. In example embodiments, a plurality of logical inputs regarding a topic is received in bullet point format. A content generator generates draft content using machine learning (ML) models. The generating comprises identifying a writing style of the user by applying the plurality of logical inputs to a first ML model

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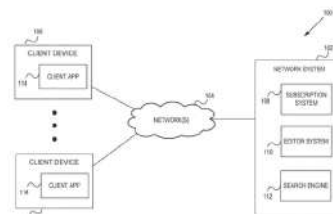


FIG. 1

Dynamically adapting speech processing over duration of audible rendering

Publicada en espacenet, 07/12/2023

Solicitante: GOOGLE LLC [US]

Implementations set forth herein relate to an automated assistant that can bias speech processing towards certain requests according to whether those requests are relevant to content that is being rendered, or is expected to be rendered, at a computing device. In this way, speech processing can be dynamically biased according to features of content that may be rendered by a particular application and/or a particular device.

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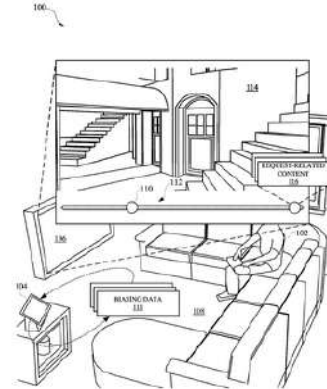


FIG. 1A

Interaction data and processing natural language inputs

Publicada en espacenet, 05/12/2023

Solicitante: AMAZON TECH INC [US]

Techniques for determining and using interaction affinity data are described. Interaction affinity data may indicate a latent affinity between information corresponding to an interaction, such as, intents, entities, device type from which a user input is received, domain, etc. A system may use the interaction affinity data to determine an alternative input representation for a spoken input to cause output of a desired response to the spoken input.

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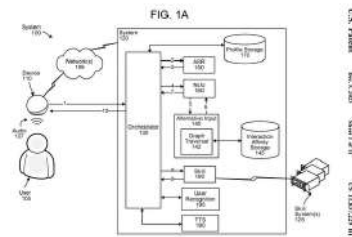


FIG. 1A

Method for operating a low or medium voltage power network, computer program and electronically readable data carrier

Publicada en espacenet, 29/11/2023

Solicitante: SIEMENS AG [DE]

La invención se refiere a un método para operar una red eléctrica, cuyo estado se determina. La invención se refiere además a un programa informático y a un soporte de datos legible electrónicamente.

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Control system, control method and storage medium

Publicada en espacenet, 23/11/2023

Solicitante: TOYOTA MOTOR CO LTD [JP]

A control system according to the present embodiment includes: a feature extraction unit that extracts a feature of a person in a captured image captured by a camera; a first determination unit that determines, based on a feature extraction result, whether the person included in the captured image is a device user who uses an assistive device for assisting movement; a second determination unit that determines, based on the feature extraction result, whether an assistant who assists movement of the device user is present

[Veure més...](#)

FIG 1



FIG 2

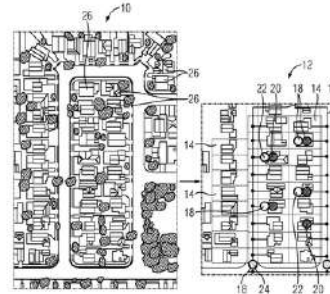
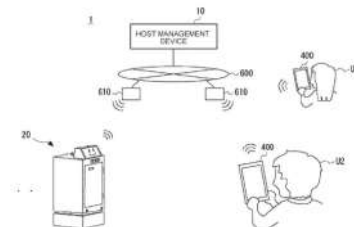


FIG. 1



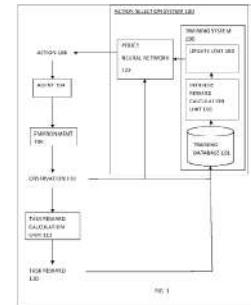
Exploration by bootstepped prediction

Publicada en espacenet, 23/11/2023

Solicitante: DEEPMIND TECH LTD [GB]

An iterative method is proposed to train an action selection system of a reinforcement learning system, based on a reward function which defines a reward value for each action. The reward value includes an intrinsic reward term generated based on the outputs of two encoder models: an online encoder model and a target encoder model. The online encoder model is iteratively trained based on a loss function, and the target encoder model is updated to bring it closer to the online encoder model.

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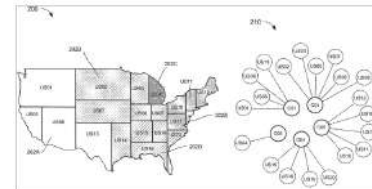
Geospatial Clustering of Regions Using Neural Networks for Autonomous Systems and Applications

Publicada en espacenet, 16/11/2023

Solicitante: NVIDIA CORP [US]

In various examples, a cell model that partitions a geographic region into one or more cells is used to determine clusters of cell which share similarities. Sensor data is provided to one or more machine learning models trained to classify the sensor data to one or more cells of the cell model. Based on classifying sensor data to cells of a cell model, similarities between pairings of cells of the cell model may be determined and used to form clusters of the cell which are sufficiently similar in order to aid in the curation of training data used to train machine learning models

[Veure més...](#)



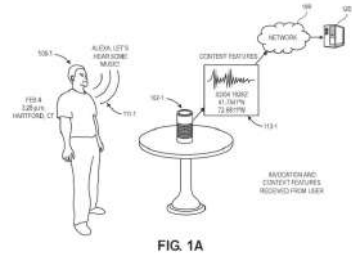
Selecting dialog acts using controlled randomness and offline optimization

Publicada en espacenet, 03/10/2023

Solicitante: AMAZON TECH INC [US]

Dialog acts (e.g., questions) are selected for voice browsing by a machine learning model trained to identify a dialog act that is most likely to lead to a desired outcome. When an invocation is received from a user, a context of the invocation is determined, and a pool of dialog acts is scored based on the context by a machine learning model. Dialog acts are selected from the pool and presented to the user in accordance with a randomization policy.

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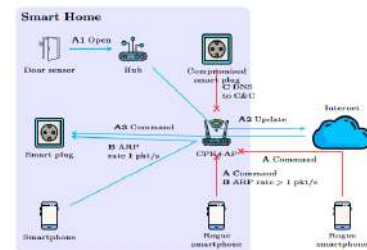
PUBLICACIONES CIENTÍFICAS

Supervising Smart Home Device Interactions: A Profile-Based Firewall Approach

Publicada en arxiv.org, 23/01/2024

Internet of Things devices can now be found everywhere, including in our households in the form of Smart Home networks. Despite their ubiquity, their security is unsatisfactory, as demonstrated by recent attacks. The IETF's MUD standard has as goal to simplify and automate the secure deployment of end devices in networks.

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Material Classification of Recyclable Containers Using 60 GHz Radar

Publicada en arxiv.org, 22/12/2023

Rather than sending used containers and materials to the landfill, recycling can help lower the human impact on the environment. However, manually sorting the mixture of incoming material can be both costly and potentially harmful to the person carrying out the task. In many cases, manual sorting could be replaced with automation, where a container is sorted by a machine, based on a classification of the container's material. In this paper, we propose a classification algorithm, using radar data, acquired with Acconeer's A121 60 GHz pulse coherent radar, for classifying liquid containers into one of the four classes metal, glass, plastic, or paper.

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Protection of Vulnerable Road Users using Hybrid Vehicular Networks

Publicada en arxiv.org, 21/12/2023

The use of reactive detection technologies such as passive and active sensors for avoiding car accidents involving pedestrians and other Vulnerable Road Users (VRU) is one of the cornerstones of Cooperative, Connected, and Automated Mobility (CCAM). However, CCAM systems are not yet present in all roads at all times.

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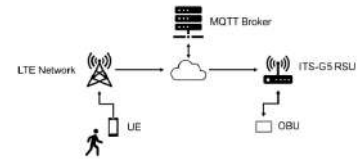


Fig. 1. System Diagram

An Intelligent Indoor Positioning Algorithm Based on Wi-Fi and Bluetooth Low Energy

Publicada en arxiv.org, 25/12/2023

Indoor positioning plays a pivotal role in a wide range of applications, from smart homes to industrial automation. In this paper, we propose a comprehensive approach for accurate positioning in indoor environments through the integration of existing Wi-Fi and Bluetooth Low Energy (BLE) devices.

[Veure més...](#)

Automated Market Maker on the XRP Ledger

Publicada en arxiv.org, 21/12/2023

This research paper focuses on the testing and evaluation of the proposed XRP Ledger (XRPL)-Automated Market Maker (AMM), designed to address the limitations observed in traditional Ethereum-based Automated Market Makers (AMMs), such as high transaction fees, significant slippage, high impermanent losses, synchronization issues, and low transaction throughput.

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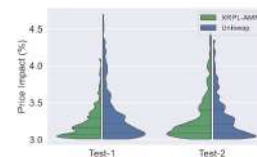


Fig. 4: Test-1 and Test-2 price impact (%) caused by arbitrageurs. The dotted lines represent the first, second (mean), and third quartiles.

Vision-Based Automatic Groceries Tracking System – Smart Homes

Publicada en arxiv.org, 19/12/2023

With advanced AI, while every industry is growing at rocket speed, the smart home industry has not reached the next generation. There is still a huge leap of innovation that needs to happen before we call a home a Smart home. A Smart home should predict residents' needs and fulfill them in a timely manner. One of the important tasks of maintaining a home is timely grocery tracking and supply maintenance.

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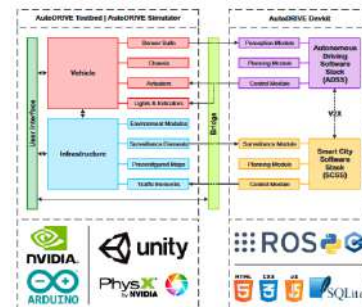
Fig. 2. Store tracking data - SKU110k dataset

AutoDRIVE: A Comprehensive, Flexible and Integrated Digital Twin Ecosystem for Enhancing Autonomous Driving Research and Education

Publicada en arxiv.org, 10/12/2023

Prototyping and validating hardware-software components, sub-systems and systems within the intelligent transportation system-of-systems framework requires a modular yet flexible and open-access ecosystem. This work presents our attempt towards developing such a comprehensive research and education ecosystem, called AutoDRIVE

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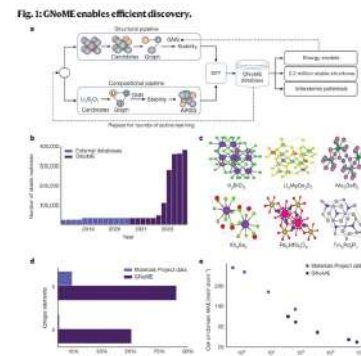


Scaling deep learning for materials discovery

Publicada en nature.com, 28/11/2023

Novel functional materials enable fundamental breakthroughs across technological applications from clean energy to information processing. From microchips to batteries and photovoltaics, discovery of inorganic crystals has been bottlenecked by expensive trial-and-error approaches. Concurrently, deep-learning models for language, vision and biology have showcased emergent predictive capabilities with increasing data and computation

[Veure més...](#)



Smart City Drivers and Challenges in Urban-Mobility, Health-Care, and Interdependent Infrastructure Systems

Publicada en arxiv.org, 26/11/2023

At the turn of the 21st century, urban development has experienced a paradigm shift so that the quest for smarter cities has become a priority agenda, with the direct participation of industry, policymakers, practitioners, and the scientific community alike. The 2008 financial crisis, the exodus from rural areas, and the densification of urban centers coupled with environmental and sustainability concerns have posed enormous challenges to municipalities all over the globe

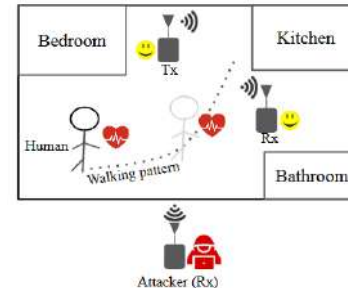
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SoK: Inference Attacks and Defenses in Human-Centered Wireless Sensing

Publicada en arxiv.org, 22/11/2023

Human-centered wireless sensing aims to understand the fine-grained environment and activities of a human using the diverse wireless signals around her. The wireless sensing community has demonstrated the superiority of such techniques in many applications such as smart homes, human-computer interactions, and smart cities. Like many other technologies, wireless sensing is also a double-edged sword.

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IEEE Big Data Cup 2022: Privacy Preserving Matching of Encrypted Images with Deep Learning

Publicada en arxiv.org, 18/11/2023

Smart sensors, devices and systems deployed in smart cities have brought improved physical protections to their citizens. Enhanced crime prevention, and fire and life safety protection are achieved through these technologies that perform motion detection, threat and actors profiling, and real-time alerts.

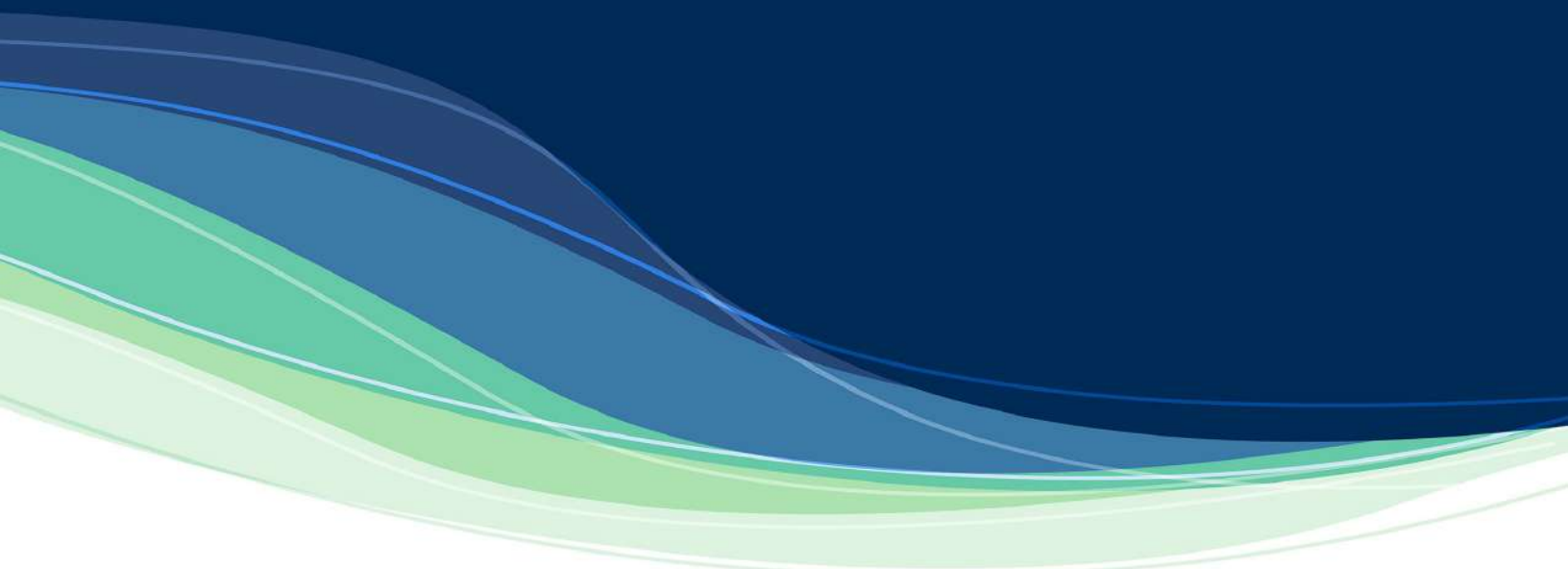
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Identifying Threats, Cybercrime and Digital Forensic Opportunities in Smart City Infrastructure via Threat Modeling

Publicada en arxiv.org, 28/10/2023

Technological advances have enabled multiple countries to consider implementing Smart City Infrastructure to provide in-depth insights into different data points and enhance the lives of citizens. Unfortunately, these new technological implementations also entice adversaries and cybercriminals to execute cyber-attacks and commit criminal acts on these modern infrastructures

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SmartLivingPlat

Plataforma Tecnológica de la Domótica
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