



SmartLivingPlat

Plataforma Tecnológica de la Domótica
y las Ciudades Inteligentes



Boletín de Vigilancia Tecnológica

JULIO - AGOSTO 2023

SMART BUILDINGS
SMART CITIES
INDUSTRIA 4.0

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NOTICIAS

New review in Energy Reviews discusses progress in the design of porous volumetric solar receivers

Publicada en <https://www.eurekalert.org>, 28/08/2023.

The study provides a condensed overview of the latest advances in a promising research field that could revolutionize solar power



[ver más...](#)

Robotaxis: What Is Going On?

Publicada en <https://www.eetimes.eu>, 28/08/2023.

This column analyzes recent activities in the robotaxi industry and summarizes cities with robotaxi tests, pilots and commercial services.

Robotaxi Pilots & Testing: Europe, Asia & Middle East		
Company	City/Country	Status
Cruise	Dubai, UAE	Started AV mapping in 2021
Cruise	Japan with Honda	1 daily mapping, testing, robotaxi publicly
Mobility	Wuxi, China	Started May 2018, Development testing
Mobility	Tokyo, Japan	Started in 2017
Mobility	Darmstadt, Germany	Started January 2017
Mobility	Munich, Germany	Tests in 2019 & from January 2022
Mobility	Paris, France	Started in December 2021
Mobility	Stuttgart, Germany	Started in April 2021
Mobility	Vienna, Austria with Mercedes	Started in 2019
Mobility	Doha, South Korea	PR, 1,547,000, May's agreement
Mobility	Singapore	Testing from 2018, started for roll-out
Mobility	Saudi Arabia with Hyundai	Tests from 6 2022 with safety driver
Waymo	Munich, Germany, Mobility & platform	Started in July 2023, Using 40,000 AV
Waymo	Shanghai, Germany, Add-on AV system	Launched 2023 with work on L4
Waymo	Dubai & UAE testing license, July 2021	License testing from 2022

[ver más...](#)

IBM says 40% of the global workforce will have to learn new skills over next three years due to AI implementation

Publicada en <https://www.techspot.com/>, 21/08/2023.

Generative AI is going to have such a big impact on the global jobs market that 40% of workers will have to reskill in the next three years, according to a study by IBM. The good news is that 87% of executives who were surveyed said they expect the likes of ChatGPT to augment existing roles rather than replace them.



[ver más...](#)

McKinsey: The state of AI in 2023: Generative AI's breakout year

Publicada en <https://www.mckinsey.com>, 01/08/2023.

The latest annual McKinsey Global Survey on the current state of AI confirms the explosive growth of generative AI (gen AI) tools. Less than a year after many of these tools debuted, one-third of our survey respondents say their organizations are using gen AI regularly in at least one business function.



[ver más...](#)

How AI is fundamentally altering the business landscape

Publicada en <https://venturebeat.com>, 30/07/2023.

Over the past year, we've witnessed dramatic strides in AI development and huge shifts in public perceptions of the technology. Chatbots like OpenAI's ChatGPT and LLMs like GPT-4 have demonstrated remarkable abilities to communicate fluently and perform at or near the highest level on a broad range of cognitive assessments.



[ver más...](#)

Alternative fuels infrastructure: Council adopts new law for more recharging and refuelling stations across Europe

Publicada en <https://www.consilium.europa.eu>, 25/07/2023.

More recharging and refuelling stations for alternative fuels will be deployed in the coming years across Europe enabling the transport sector to significantly reduce its carbon footprint following today's adoption on the alternative fuel infrastructure regulation (AFIR).

[ver más...](#)

EMPRESAS Y MERCADOS

Apple reportedly tests 3D printing to manufacture the new Apple Watch

Publicada en <https://www.bloomberg.com>, 30/08/2023.

Apple is reportedly testing using 3D printing technology to make the chassis in the upcoming Apple Watch Series 9. Bloomberg reported that Apple will roll out the 3D printing for other products' manufacturing if initial tests go well. The company hasn't yet been able to mass-produce 3D-printed aluminum enclosures used in Apple's Mac and iPad lineup, per the report.



Apple Watch Series 9 and SE
© Apple Inc.

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Great Wall using Baidu's ChatBot in vehicles

Publicada en <https://www.just-auto.com/>, 04/08/2023.

Chinese SUV maker Great Wall Motor appears set to become the first automaker to adopt Beijing-based Baidu's artificial intelligence (AI) software in its vehicles which enables communication between driver and vehicle.



Great Wall Motor

[ver más...](#)

Cost of a Data Breach Report 2023

Publicada en <https://www.ibm.com>, 30/07/2023.

Fight back against data breaches. Be better prepared for breaches by understanding their causes and the factors that increase or reduce costs. Explore the comprehensive findings from the Cost of a Data Breach Report 2023. Learn from the experiences of more than 550 organizations that were hit by a data breach.

USD 4.45 million

The global average cost of a data breach in 2023 was USD 4.45 million, a 15% increase over 3 years.

[ver más...](#)

Speaking robot: Our new AI model translates vision and language into robotic actions

Publicada en <https://blog.google>, 28/07/2023.

RT-2, our new vision-language-action model, helps robots more easily understand and perform actions — in both familiar and new situations.

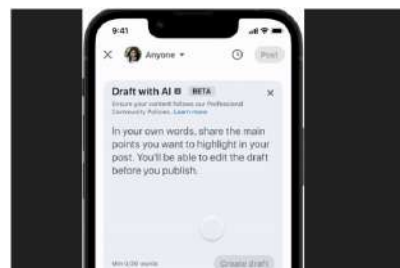


[ver más...](#)

LinkedIn Rolls Out Generative AI Tools to Write Posts

Publicada en <https://voicebot.ai/>, 21/07/2023.

LinkedIn has begun testing an expanded suite of generative AI features to help users write posts and updates on the social media platform. The new tools build on the option to use the technology for composing profiles, job description, and advertising.



[ver más...](#)

Desigual unveils on-demand collection crafted by artificial intelligence

Publicada en <https://apparelresources.com>, 18/07/2023.

Desigual, a Spanish retailer, has revealed its first-ever on-demand collection, featuring items created by its creative team and using artificial intelligence (AI). Desigual stated that it is trying to explore new methods of communicating with customers and react to market developments in a way that is more aligned with their beliefs through the on-demand model, which is noticeably rarely employed by such large-scale global brands.



[ver más...](#)

Facebook parent Meta unveils LLaMA 2 open-source AI model for commercial use

Publicada en <https://venturebeat.com/>, 18/07/2023.

In a blockbuster announcement today designed to coincide with the Microsoft Inspire conference, Meta announced its new AI model, LLaMA 2 (Large Language Model Meta AI). Not only is this new large language model (LLM) now available, it's also open-source and freely available for commercial use — unlike the first LLaMA, which was licensed only for research purposes.



[ver más...](#)

RT-2: New model translates vision and language into action

Publicada en <https://www.deepmind.com/>, 18/07/2023.

Robotic Transformer 2 (RT-2) is a novel vision-language-action (VLA) model that learns from both web and robotics data, and translates this knowledge into generalised instructions for robotic control.



[ver más...](#)

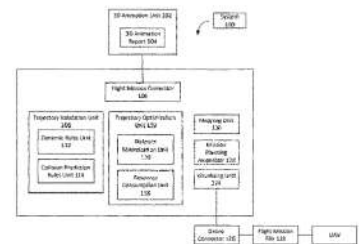
PATENTES

A system for repositioning UAV swarm

Publicada en Patentscope_Domótica, 30/08/2023.

Solicitante: MICROAVIA INTERNATIONAL LTD

The present disclosure relates to a system for repositioning an UAV swarm during a flight mission. The system comprises a 3D animation generator and a mission generator.



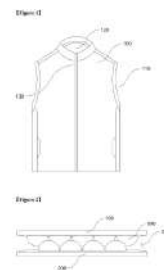
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IoT-based smart thermal wear

Publicada en Patentscope_Domótica, 30/08/2023.

Solicitante: JANG EUN FNC CO LTD

The present invention relates to an IoT-based smart thermal wear. More specifically, the present invention provides clothing comprising thermal material that retains heat allowing wearers to work more efficiently and lower any risk of accidents



[ver más...](#)

Method for detecting an object in the surroundings of a motor vehicle, and assistance system

Publicada en Patentscope_Domótica, 30/08/2023.

Solicitante: CONTINENTAL AUTONOMOUS MOBILITY GERMANY GMBH

The invention relates to a method (100) for detecting an object (2, 3, 4, 5) in the surroundings of a motor vehicle (1) by means of an assistance system (7) of the motor vehicle (1), in which method the motor vehicle

[ver más...](#)

Robotic spraying vehicle

Publicada en Patentscope_Domótica, 30/08/2023.

Solicitante: HUSQVARNA AB

A robotic vehicle (10) may include a chassis supporting a storage tank in which an aqueous solution is contained, a mobility assembly operably coupled to the chassis to provide mobility for the robotic vehicle about a service area

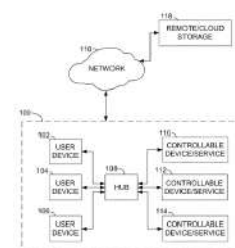
[ver más...](#)

System and method for customizing smart home speech interfaces using personalized speech profiles

Publicada en Patentscope_Domótica, 30/08/2023.

Solicitante: DRNC HOLDINGS INC

A computer-implemented method comprising receiving audio data representing a voice input; identifying a first user as providing the voice input, the identification being based on a comparison of characteristics of the received audio data with speaker profile data of a plurality of speakers



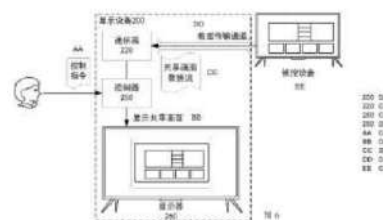
[ver más...](#)

Display device, smart home system, and multi-screen control method for display device

Publicada en Espacenet_Patentes, 24/08/2023.

Solicitante: HISENSE VISUAL TECH CO LTD[CN]

The present application discloses a display device, a smart home system, and a multi-screen control method for a display device. In an embodiment of the present application, when a user controls a display device to display an in-focus card in a multi-screen control interface



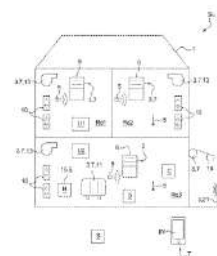
[ver más...](#)

Method for configuring, controlling or monitoring home automation equipment

Publicada en Espacenet_Patentes, 21/08/2023.

Solicitante: OVERKIZ[FR]

A method for configuring home automation installation including at least one home automation device capable of communicating with at least one central control unit, the method being executed by a management unit capable of communicating with the at least one central control unit



[ver más...](#)

Home automation system

Publicada en Espacenet_Patentes, 17/08/2023.

Solicitante: SCHNEIDER ELECTRIC IND SAS[FR]

The invention relates to a home automation system comprising a plurality of terminals which communicate with one another via a mesh network, wherein the terminals are designed to perform home automation actions and/or to capture data needed for home automation

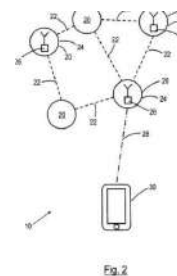


Fig. 2

[ver más...](#)

Machine-learning model for generating hemophilia-pertinent predictions using sensor data

Publicada en Patentscope_Domótica, 16/08/2023.

Solicitante: HOFFMANN LA ROCHE

Disclosed are systems and methods for building and using a machine-learning model to facilitate intelligent selection of treatment strategies for subjects suffering from hemophilia. Sensor data

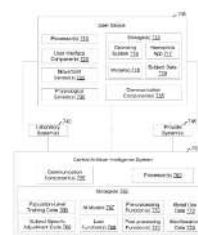


FIG. 7

[ver más...](#)

Artificial intelligence device and smart home cooking system including artificial intelligence device

Publicada en Espacenet_Patentes, 10/08/2023.

Solicitante: LG ELECTRONICS INC[KR]

The present invention relates to a smart home cooking system using an artificial intelligence device, comprising: at least one cooking utensil provided to cook food ingredients

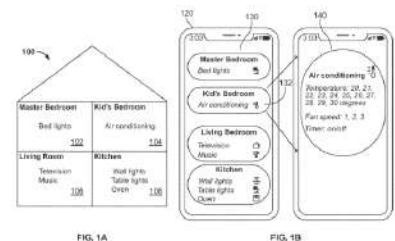
[ver más...](#)

Procedural knowledge for a smart home automation system

Publicada en Espacenet_Patentes, 10/08/2023.

Solicitante: LG ELECTRONICS INC [KR]

According to at least one embodiment, an artificial intelligence apparatus includes at least one audio sensor configured to capture audio data in an environment, and at least one processor.



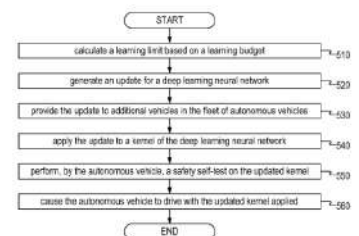
[ver más...](#)

Online learning by an instance of a deep learning model and sharing of learning with additional instances of the deep learning model

Publicada en Patentes AI patentscope, 10/08/2023.

Solicitante: GM Cruise Holdings LLC

The subject disclosure relates to techniques for enabling sharing of knowledge among a fleet of autonomous vehicles. A process of the disclosed technology can include generating an update for a continuous deep learning neural network on-board the autonomous vehicle based on driving scenarios encountered by the autonomous vehicle during its deployment

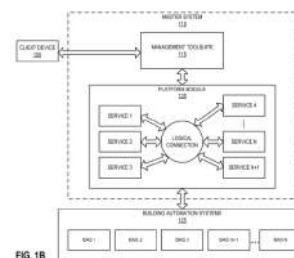


[ver más...](#)

A software-defined master system for smart buildings

Publicada en Patentscope_Domótica, 09/08/2023.

Solicitante: SCHNEIDER ELECTRIC BUILDINGS AMERICAS INC
 System and method for designing and deploying a building-related service in a building automation management system (BAMS) based on a software-defined master system (SDMS) architecture.

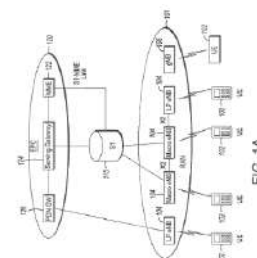


[ver más...](#)

Uplink transmission in tdd supporting fcnb-iot operation

Publicada en Patentscope_Domótica, 09/08/2023.

Solicitante: APPLE
 Embodiments of a User Equipment (UE), generation Node-B (gNB) and methods of communication are generally described herein. The UE may receive a narrowband physical downlink control channel (NPDCCH) that includes an uplink scheduling parameter.



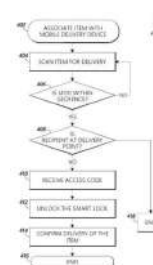
[ver más...](#)

Systems and methods for item delivery integration with a smart home

Publicada en Espacenet_Patentes, 03/08/2023.

Solicitante: UNITED STATES POSTAL SERVICE[US]

Systems and methods to deliver items to smart receptacles or locations secured by smart locks. A distribution network can provide access codes or credentials to access smart locks.



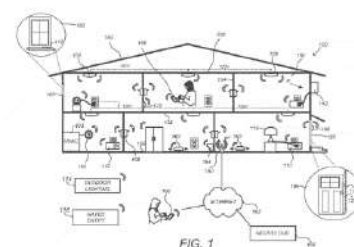
[ver más...](#)

Devices, methods, and associated information processing for security in a smart-sensored home

Publicada en Patentscope_Domótica, 02/08/2023.

Solicitante: GOOGLE LLC [US]

Inter alia, a smart-home environment networking system is disclosed. The system comprises one or more spokesman smart home devices that communicate via a first high-power communication protocol and a second low-power communication protocol.



[ver más...](#)

Binding method for smart home device and terminal

Publicada en Espacenet_Patentes, 27/07/2023.

Solicitante: QINGDAO HISENSE SMART LIFE TECH CO LTD[CN]

Disclosed in the present application are a binding method for a smart home device and a terminal. The method comprises: responding to a device adding instruction; on the basis of a local area network discovery protocol built in a target application on a terminal,

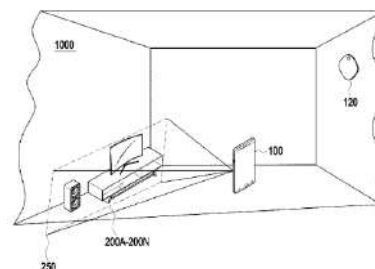
[ver más...](#)

Method and electronic device for smart home control

Publicada en Espacenet_Patentes, 27/07/2023.

Solicitante: SAMSUNG ELECTRONICS CO LTD [KR]

A method for remote control of at least one non-ultra wide band (nUWB) device in an space by an electronic device is provided. The method includes identifying a position using at least one ultra wideband (UWB) anchor in the space, determining a field of view based on the position of the electronic device in the space, identifying the at least one nUWB device within the field of view, and establishing communication with the at least one nUWB device.



[ver más...](#)

Smart home management system for generating augmented reality scene of potentially hazardous condition

Publicada en Espacenet_Patentes, 27/07/2023.

Solicitantes: ROVI GUIDES INC [US]

Systems and methods are described for identifying, using a sensor, a location of an object in an environment, and determining a classification of the object. A human may be identified in proximity with the object

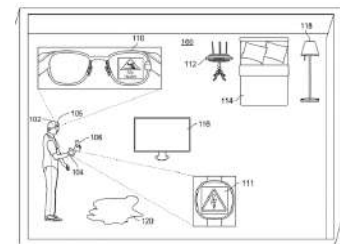


FIG. 1

[ver más...](#)

Smart home device using a single radar transmission mode for activity recognition of active users and vital sign monitoring of inactive users

Publicada en Patentscope_Domótica, 26/07/2023.

Solicitante: GOOGLE LLC

Various arrangements for monitoring for contactless human interactions and health using a single radar transmission modulation mode are provided. Radar chirps may be output by a radar sensor operating in a burst mode.

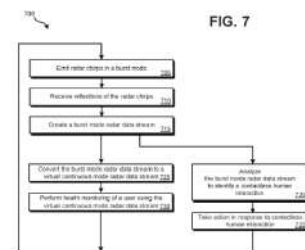


FIG. 7

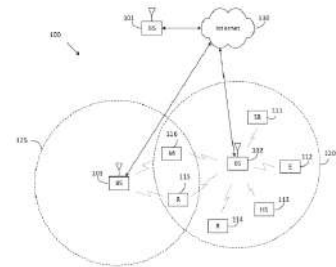
[ver más...](#)

Method and apparatus for predictive beam management

Publicada en Patentscope_Domótica, 19/07/2023.

Solicitante: SAMSUNG ELECTRONICS CO LTD

The disclosure relates to a communication method and system for converging a 5th-Generation (5G) communication system for supporting higher data rates beyond a 4th-Generation (4G) system with a technology for Internet of Things (IoT).



[ver más...](#)

Method for commissioning electric or electronic devices in a home automation system

Publicada en Patentscope_Domótica, 19/07/2023.

Solicitante: NIKO NV

The present invention provides a method for commissioning electric or electronic devices in a home automation system. The method comprises providing a location of at least one electric or electronic device, identifying the a least one electric or electronic device, and commissioning the at least one identified electric or electronic device.

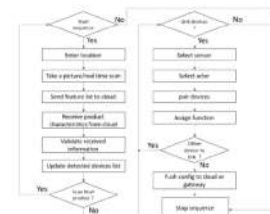


FIG. 1

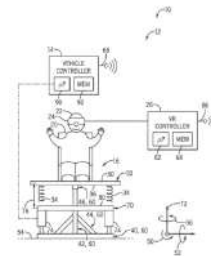
[ver más...](#)

Systems and methods to facilitate guest control of a ride vehicle

Publicada en Patentscope_Domótica, 19/07/2023.

Solicitante: UNIVERSAL CITY STUDIOS LLC

A ride vehicle control system for a ride vehicle of an attraction includes multiple sensors that are configured to monitor a guest supported by the ride vehicle. The ride vehicle control system also includes an actuator system configured to couple to the ride vehicle.



[ver más...](#)

Distributed intelligent software for industrial iot

Publicada en Patentscope_Domótica, 05/07/2023.

Solicitante: TRACKONOMY SYSTEMS INC

A tracking system includes a plurality of tape nodes, each including a battery, a short-range wireless interface, a processor, and a memory storing a liquid operating system (OS) having machine readable instructions that when executed by the processor cause the processor to receiving

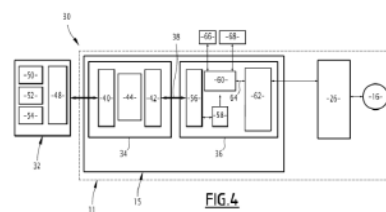
[ver más...](#)

Electronic device for controlling an electromechanical actuator for a motorised home automation blackout system

Publicada en Patentscope_Domótica, 05/07/2023.

Solicitante: SOMFY ACTIVITES SA

The invention relates to an electronic control device (15) for controlling at least one electromechanical actuator (11) of a blackout device, the electromechanical actuator (11) comprising at least one electric motor



[ver más...](#)

Personal mobility vehicle

Publicada en Patentscope_Domótica, 05/07/2023.

Solicitante: INTELLIGENT MOTION LTD

A personal mobility vehicle with a high degree of maneuverability is disclosed. The personal mobility vehicle is a single-wheel vehicle with an in-wheel motor. The in-wheel motor has a traction motor, a wheel rim, a rotatable air guide structure, and a vehicle stabilization mechanism.

[ver más...](#)

Sensing node, sensing network, intelligent building control system and associated method

Publicada en Patentscope_Domótica, 05/07/2023.

Solicitante: SCHNEIDER ELECTRIC IND SAS

Embodiments of the present disclosure relate to a sensing node, a sensing network, an intelligent building control system and an associated method. The sensing node includes: a housing adapted to be installed on a carrier of a building space



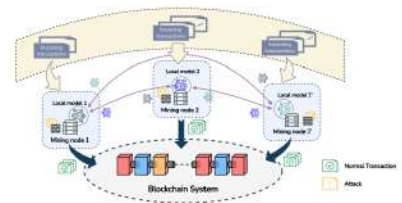
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PUBLICACIONES CIENTÍFICAS

Securing Blockchain Systems: A Novel Collaborative Learning Framework to Detect Attacks in Transactions and Smart Contracts

Publicada en <https://arxiv.org>, 30/08/2023.

With the escalating prevalence of malicious activities exploiting vulnerabilities in blockchain systems, there is an urgent requirement for robust attack detection mechanisms. To address this challenge, this paper presents a novel collaborative learning framework designed to detect attacks in blockchain transactions and smart contracts by analyzing transaction features.



[ver más...](#)

A decentralized, blockchain-based messaging network for safer communications

Publicada en <https://techxplore.com>, 29/08/2023.

Data and security breaches are becoming increasingly common, highlighting the vulnerabilities of existing messaging and communications platforms. Devising computational tools and systems that better protect sensitive data against malicious attacks is therefore of utmost importance.



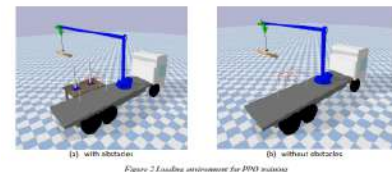
Credit: Shuhan et al

[ver más...](#)

A reinforcement learning based construction material supply strategy using robotic crane and computer vision for building reconstruction after an earthquake

Publicada en <https://arxiv.org>, 25/08/2023.

fter an earthquake, it is particularly important to provide the necessary resources on site because a large number of infrastructures need to be repaired or newly constructed. Due to the complex construction environment after the disaster, there are potential safety hazards for human labors working in this environment.



[ver más...](#)

A Blockchain based Fund Management System for Construction Projects -- A Comprehensive Case Study in Xiong'an New Area China

Publicada en <https://arxiv.org>, 24/08/2023.

As large scale construction projects become increasingly complex, the use and integration of advanced technologies are being emphasized more and more. However, the construction industry often lags behind most industries in the application of digital technologies

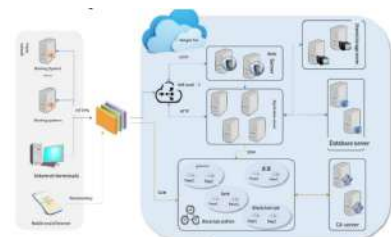


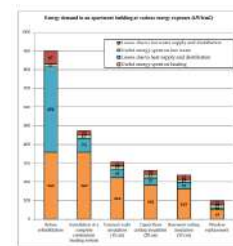
Figure 2. Physical architecture of the system

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Asynchronous Sensor System for Collecting Detailed Data on the Environment and Resource Consumption in Smart City

Publicada en <https://arxiv.org>, 19/08/2023.

This article expands on the ideas presented in arXiv:1910.08759. The article demonstrates that within a unified monitoring system, cities can collect not only detailed resource consumption data but also information on the environmental conditions under a common set of rules.

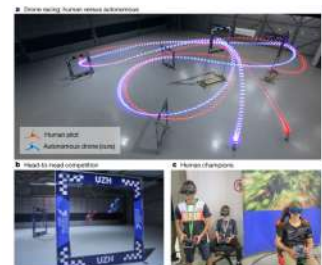


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Champion-level drone racing using deep reinforcement learning

Publicada en <https://www.nature.com>, 08/08/2023.

First-person view (FPV) drone racing is a televised sport in which professional competitors pilot high-speed aircraft through a 3D circuit. Each pilot sees the environment from the perspective of their drone by means of video streamed from an onboard camera.



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Ultraflexible endovascular probes for brain recording through micrometer-scale vasculature

Publicada en <https://www.science.org>, 20/07/2023.

Interfacing of neural devices with the brain enables detailed recording and stimulation, but there is typically a trade-off between the level of invasiveness and the resolution of the device.

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Llama 2: Open Foundation and Fine-Tuned Chat Models

Publicada en <https://arxiv.org/>, 18/07/2023.

In this work, we develop and release Llama 2, a collection of pretrained and fine-tuned large language models (LLMs) ranging in scale from 7 billion to 70 billion parameters. Our fine-tuned LLMs, called Llama 2-Chat, are optimized for dialogue use cases. Our models outperform open-source chat models on most benchmarks we tested, and based on our human evaluations for helpfulness and safety, may be a suitable substitute for closed-source models. We provide a detailed description of our approach to fine-tuning and safety improvements of Llama 2-Chat in order to enable the community to build on our work and contribute to the responsible development of LLMs.

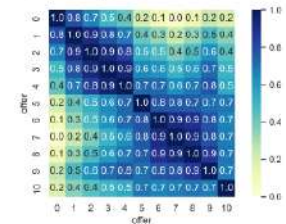
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Using Large Language Models to Simulate Multiple Humans and Replicate Human Subject Studies

Publicada en <https://arxiv.org/>, 09/07/2023.

We introduce a new type of test, called a Turing Experiment (TE), for evaluating to what extent a given language model, such as GPT models, can simulate different aspects of human behavior.

(b) Name sensitivity in correlations across offers



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