SmartLivingPlat

Plataforma Tecnológica de la Domótica y las Ciudades Inteligentes

Boletín de Vigilancia Tecnológica

Abril - Mayo 2021

SMART BUILDINGS
SMART CITIES
INDUSTRIA 4.0

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GOBIERNO DE ESPAÑA
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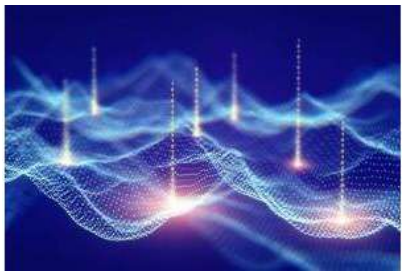
NOTICIAS

European digital consortium to design future EU quantum internet ultra-secure comms

Publicada en https://www.iot-now.com, 31/05/2021.

The European Commission has selected a consortium of companies and research institutes to study the design of the future European quantum communication network, EuroQCI (quantum communication infrastructure). It will enable ultra-secure communication between critical infrastructures and government institutions across the European Union.



ver más...

How Industry 4.0 is Changing and How Blockchain Fits!

Publicada en https://supplychaingamechanger.com, 29/05/2021.

Industry 4.0 is changing article written for Supply Chain Game Changer by Tony Giovaniello, President of the Shasta EDC. There are many components of Industry 4.0, some of which are not yet fully defined, or fully understood. Other components may emerge as technology is continually emerging. These new tools are sure to amplify the prospective results of Smart Manufacturing solutions.

ver más...

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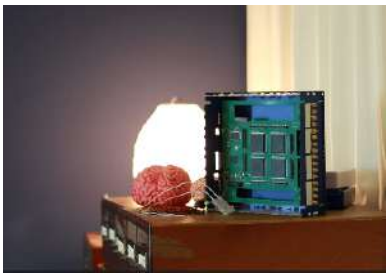
Artificial Neurons Recognize Biosignals in Real Time

Publicada en https://www.technology.org, 27/05/2021.

Researchers from Zurich have developed a compact, energy-efficient device made from artificial neurons that is capable of decoding brainwaves. The chip uses data recorded from the brainwaves of epilepsy patients to identify which regions of the brain cause epileptic seizures. This opens up new perspectives for treatment.



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Energy Efficiency Directive review 2021: let’s make it count

Publicada en https://caneurope.org, 17/05/2021.

The role of energy savings in fighting climate change is fundamental and widely acknowledged in the political debate. This is also supported by different scenarios which require a significant reduction of energy demand in order to achieve substantial emission reductions, when exploring ways to reach climate neutrality.

ver más...

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Elon Musk Says Tesla Has Suspended Accepting Bitcoin for Vehicle Purchases

Publicada en https://www.wsj.com, 12/05/2021.

Tesla Inc. Chief Executive Elon Musk said the company has suspended accepting bitcoin as payment for its vehicles. “We are concerned about rapidly increasing use of fossil fuels for Bitcoin mining and transactions, especially coal,” Mr. Musk said Wednesday on Twitter. Bitcoin’s value against the dollar fell more than 5% after Mr. Musk’s tweet.

ver más...

Scientists create a new type of intelligent material

Publicada en https://www.nanowerk.com, 12/05/2021.

(Nanowerk News) Researchers from the National University of Singapore have created a new class of intelligent materials. It has the structure of a two-dimensional material, but behaves like an electrolyte and could be a new way to deliver drugs within the body.

ver más...

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A Closer Look at the DarkSide Ransomware Gang

Publicada en https://krebsonsecurity.com, 11/05/2021.

The FBI confirmed this week that a relatively new ransomware group known as DarkSide is responsible for an attack that caused Colonial Pipeline to shut down 5,550 miles of pipe, stranding countless barrels of gasoline, diesel and jet fuel on the Gulf Coast. Here's a closer look at the DarkSide cybercrime gang, as seen through their negotiations with a recent U.S. victim that earns $15 billion in annual revenue.

ver más...

The Chip Shortage Keeps Getting Worse. Why Can't We Just Make More?

Publicada en https://www.bloomberg.com, 06/05/2021.

Shortages of semiconductors are battering automakers and tech giants, raising alarm bells from Washington to Brussels to Beijing. The crunch has raised a fundamental question for policymakers, customers and investors: Why can't we just make more chips?

ver más...

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Energy efficiency must apply across all renewables, EU Commission says

Publicada en Euractiv - European Union Information Website (EU and Europe), 13/04/2021.

Europe needs a massive increase in renewable electricity to meet its 2030 decarbonisation targets, including a ramp up of clean hydrogen production from electrolysers, a senior EU official has said. To ensure Europe's scarce renewable electricity resources are used where they're needed most, the EU's climate targets must be supported by the energy efficiency first principle, said Paula Pinho from the European Commission's energy directorate.

ver más...

Staying Cybersafe When IT and OT Converge: Adding Compute and IoT at the Edge

Publicada en Shneider electric blog, 12/04/2021.

In the race to digitally transform, many companies are adding a serious number of IoT sensors, meters, and high-definition video into their operational processes. Think proximity sensing and contact tracing... Read more » The post Staying Cybersafe When IT and OT Converge: Adding Compute and IoT at the Edge appeared first on Schneider Electric Blog.

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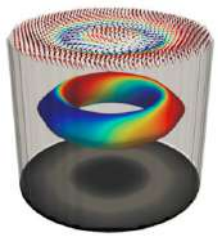
The spintronics technology revolution could be just a hopfion away

Publicada en ScienceDaily, 08/04/2021.

A research team has created and observed quasiparticles called 3D hopfions at the nanoscale (billionths of a meter) in a magnetic system. The discovery could advance high-density, high-speed, low-power, yet ultrastable magnetic memory 'spintronics' devices.



ver más...

Robots can be more aware of human co-workers, with system that provides context

Publicada en ScienceDaily, 07/04/2021.

A new context-aware system for robots is ready for implementation on the factory floor. A recent study shows the system is more efficient because it can recognize co-workers and their body shapes, and even predict their movements.

ver más...

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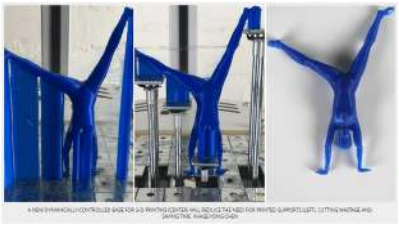
How a moving platform for 3D printing can cut waste and costs

Publicada en ScienceDaily, 06/04/2021.

Researchers have created a low-cost reusable support method to reduce the need for 3-D printers to print wasteful supports, vastly improving cost-effectiveness and sustainability for 3-D printing.



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EMPRESAS Y MERCADOS

Eufy’s new battery-powered security cameras have local storage and don’t require a hub

Publicada en https://www.theverge.com/, 31/05/2021.

Eufy, the Anker-owned smart home brand, is announcing a new SoloCam line of battery-powered security cameras that have local storage and are designed to operate without connecting to a separate hub. The new lineup will include two “Essential” (standard) cameras, two spotlight cameras, and one solar-powered camera.

ver más...

Virtuix Raises $19M in Crowd Investments for Omni One VR Treadmill

Publicada en https://www.roadtovr.com, 26/05/2021.

Virtuix, the company behind the Omni VR treadmill, launched a crowd-based investment campaign late last year to support the launch of Virtuix Omni One, an at-home VR locomotion device for consumers. The campaign’s second phase (Series A-2) is nearly at its end, and Virtuix says the company has garnered $19 million from individual investors looking to get a piece of the company.

ver más...

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Motorola signs up for medium range wireless smartphone charging -- no pad required

Publicada en https://www.cnet.com, 14/05/2021.

Motorola has begun a plan to give its smartphones medium-distance charging technology from startup GuRu Wireless that requires not only no charging cables but also no charging pad. The technology beams power 10 feet or more using radio waves sent from a charging hub to devices like phones, laptops and potentially even drones.

ver más...

Ambiq Brings Intelligent Voice-Command to Battery-Powered Endpoint Devices

Publicada en https://www.eejournal.com, 11/05/2021.

Ambiq, a technology leader recognized in ultra-low power microcontrollers (MCU), System-on-Chips (SoC), and Real-time Clocks (RTC), today introduced the new Ambiq Voice-on-SPOT™ (VoS) Kit, designed for manufacturers to introduce voice-command into their IoT devices with faster time-to-market. Aimed to deliver the complete ultra-low power solution at both the MCU and the system levels, the VoS Kit integrates Ambiq's hardware and software with peripherals and third-party IP, including signal processing using DSP Concepts' Audio Weaver, Sensory™ VoiceHub, and Retune DSP® VoiceSpot.

ver más...

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Why Home Assistant doesn't have an external API for integrations

Publicada en https://www.home-assistant.io, 11/05/2021.

Home Assistant is the world’s largest home automation platform talking with over 1700 different devices and services. Home Assistant works with these via “integrations”. Each integration runs inside Home Assistant. They convert the data from the device into data that Home Assistant understands and forward commands from Home Assistant back to the device. For this to work a device or service needs to have an application programming interface (API).

ver más...

OpenAI Scholars 2021: Final Projects

Publicada en https://openai.com, 10/05/2021.

We’re proud to announce that the 2021 class of OpenAI Scholars has completed our six-month mentorship program and have produced an open-source research project with stipends and support from OpenAI. Working alongside leading OpenAI researchers that created GPT-3 and DALL·E, our Scholars explored topics like AI safety, contrastive learning, generative modeling, scaling laws, auto-encoding multi-objective tasks, test time compute, NLP segmentation strategies, and summarization from human feedback.

ver más...

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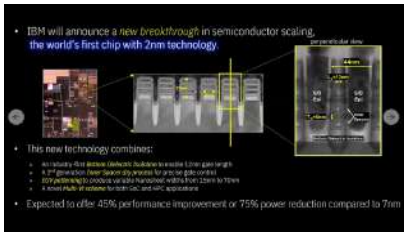
IBM creates the world’s first 2 nm chip

Publicada en https://arstechnica.com, 07/05/2021.

IBM's new 2 nm process offers transistor density similar to TSMC's next-gen 3 nm. On Thursday, IBM announced a breakthrough in integrated circuit design: the world's first 2 nanometer process. IBM says its new process can produce CPUs capable of either 45 percent higher performance or 75 percent lower energy use than modern 7 nm designs.



ver más...

AI is getting more life-like by copying a trick from human children

Publicada en https://www.inverse.com, 25/04/2021.

This tender learning process from early childhood may seem like an innately human experience, but it’s actually incredibly similar to what engineers at the University of California, Berkeley sent their bipedal robot Cassie through in order to teach it to walk. Dancing and fighting robots, like those made by and parodied of Boston Dynamics’ robots, have taken the internet by storm in the past few years. But what these videos don’t show are the fine-tuned and choreographed movements often lurking in their code.

ver más...

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Yale Linus Smart Lock Partners with Philips Hue

Publicada en Automated Home, 06/04/2021.

The integration of the Philips Hue smart lighting system and the Yale Linus motorised Smart Lock has just been announced. Check out the links and...

ver más...

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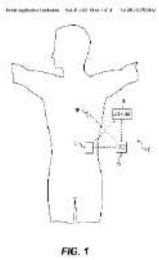
PATENTES

Method and system for controlling communication between devices of a wireless body area network for a medical device system

Publicada en Espacenet_medical devices, 20/05/2021.

Solicitante: Medtronic
A method and system are provided for controlling which communication interface is used for communication between devices that are configurable to be part of a wireless body area network (BAN) for a medical device system depending on their respective locations with respect to a first device.



ver más...

WIRELESS POWER RECEIVER AND CONTROL METHOD FOR WIRELESS POWER RECEIVER

Publicada en Espacenet_Power Electronic, 20/05/2021.

Solicitante: SAMSUNG
According to various embodiments, a wireless power receiver for receiving wireless power from a wireless power transmitter, comprises: a resonant circuit configured to generate alternating-current power on the basis of a magnetic field generated by the wireless power transmitter; a power conversion circuit configured to convert the alternating-current power generated by the resonant circuit into direct-current power; and a control circuit, wherein the power conversion circuit comprises a first diode, a second diode, a third diode, a fourth diode, and a first switch, and the control circuit can be configured to adjust at least one of a voltage or a current of the direct-current power output from the power conversion circuit, by checking the at least one of the voltage or the current of the direct-current power output from the power conversion circuit and adjusting a phase of a first control signal to be applied to the first switch.

ver más...

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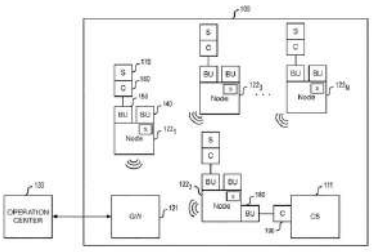
System, Method and Apparatus for Integrated Building Operations Management

Publicada en Patentscope_Domótica, 28/04/2021.

Solicitante: Senseware, Inc.
A system, method and apparatus for integrated building operations management. Nodes in the sensor network can be configured to interface with a building control system to exchange sensor-related information.

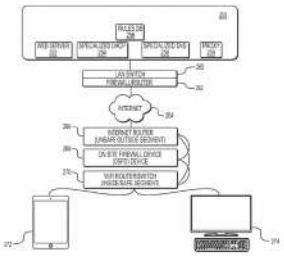


ver más...

Internet access control and reporting system and method

Publicada en Patentscope_Domótica, 26/04/2021.

Solicitante: Sean Gilman
An Internet Access Control and Reporting System (IACRS) for managing internet access is described. The IACRS is designed to allow those administering or controlling access to the internet (for example supervisors, parents, etc.) to manage Internet access of others (for example children, charges, or employees). The IACRS is able to control the type of content available,



ver más...

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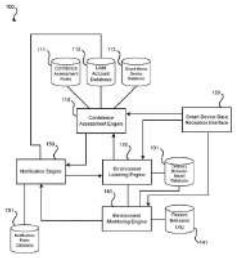
Thoughtful elderly monitoring in a smart home environment

Publicada en Patentscope_Domótica, 21/04/2021.

Solicitante: Google



Various arrangements are presented for monitoring a resident of a residence. A confidence assessment may be performed based on a plurality of smart home devices in the residence. The residence may be identified as eligible for monitoring of the resident based on the confidence assessment. A learning process may be performed to create an ordinary behavior model. Data that is received from the plurality of smart home devices may be monitored to identify data indicative of behavior considered unusual based on the ordinary behavior model.

ver más...

Smart-home device placement and installation using augmented-reality visualizations

Publicada en Patentscope_Domótica, 20/04/2021.

Solicitante: Google Llc

A method for optimizing the placement of smart-home devices may include receiving, by a mobile computing device, a location for a smart-home device, where the mobile computing device comprises a display and a camera; rendering a view of a virtual object that represents a field-of-view of the smart-home device, where the view of the virtual object is rendered based on a position corresponding to a position of the mobile computing device; and displaying, by the mobile computing device, the view of a virtual object that represents a field-of-view of the smart-home device on the display of the mobile computing device.

ver más...

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Computer Operations and Architecture for Artificial Intelligence Networks and Wave Form Transistor

Publicada en Espacenet_Power Electronic, 15/04/2021.

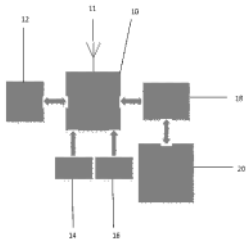
The nodes of an artificial intelligence neural network may be wave form transistors which signal one another using functions as well as real numbers. The nodes then perform a wide variety of functions, on the functions which they have received as input and then output results (functions) which become the signal to the next nodes in the net. The system utilizes multi-dimensional multi-variable functions. In addition to using functions as signals, the present invention teaches that the edges (connections) themselves may have function inputs influencing them, such that the function which is put into a connection (dendrite, synapse, edge, etc) may be altered during transmission in a way beyond merely being weighted or run through a function in the connection. The electronic version of the wave form transistor features multiple input leads which are under the influence of electro-magnets.

ver más...

GaN microcontroller for IoT devices and mesh network comprising one or more GaN microcontroller controlled IoT devices

Publicada en Espacenet_Power Electronic, 15/04/2021.

A microcontroller configured to monitor the input voltage and load conditions, and continuously adjust the switching frequencies in order to optimize the efficiency and longevity of the power supply incorporated in a device. The microcontroller utilizes a combination of GaN switching elements with their efficient high frequency switching capabilities, together with the continuous monitoring of the load conditions, allowing the intelligent microcontroller to vary the switching frequency of the power conversion blocks as needed in order to maintain the highest efficiency of conversion.



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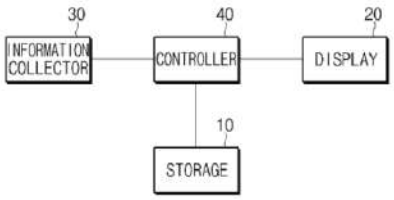
Apparatus for setting control authority for smart home and method thereof

Publicada en Patentscope_Domótica, 14/04/2021.

Solicitantes: HYUNDAI MOTOR COMPANY; KIA MOTORS CORPORATION

An apparatus for setting control authority for a smart home is provided. The apparatus includes an information collector that collects driving information and registration information of each vehicle registered in one account from a car-to-home service system, and a controller that sets control authority for one smart home to one vehicle based on the driving information and registration information collected by the information collector.



ver más...

Method and device for controlling capacity change of compressor, and smart home appliance

Publicada en Patentscope_Domótica, 14/04/2021.

Solicitante: GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

A method and a device for controlling a capacity change of a compressor, and a smart home appliance. The method includes: determining whether a capacity of the compressor is required to be changed; if yes, determining an intermediate frequency; changing the capacity of the compressor while maintaining the operating frequency of the compressor at the intermediate frequency; and the maintaining the operating frequency of the compressor at the intermediate frequency reduces a sudden change in output of the compressor after the changing the capacity.

ver más...

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Towards scalable, robust and cost-efficient mechanism for multiple object localization in smart indoor environment

Publicada en Patentscope_Domótica, 14/04/2021.

Solicitante: HUAWEI TECHNOLOGIES CO., LTD. [CN]
Systems and methods related to a RFID-based smart confined environment are provided. A system for localizing an object in a smart home includes a single RFID reader, a plurality of passive RFID tags, each of which is affixed to one of a plurality of objects to be located and contains information of a corresponding object, and a mobile platform including two antennas configured to transmit a carrier wave signal and receive a backscattering signal from a target object. The two antennas are parallelogram-shaped and abutted against each other along a radiation direction.

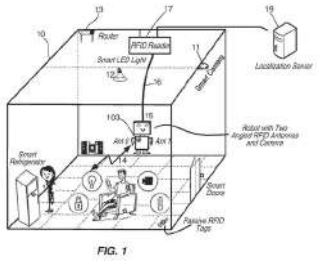

FIG. 1

ver más...

Security event detection with smart windows

Publicada en Patentscope_Domótica, 13/04/2021.

Solicitante: View Inc
Optically controllable windows and an associated window control system provide a building security platform. A window controller or other processing device can monitor for window breakage, cameras associated with windows can monitor for intruders, and transparent displays can provide alerts regarding detected activity within a building. A window control system can detect deviations from expected I/V characteristics of an optically controllable window during normal operation of the window (tint transitions, steady state conditions, etc.) and/or during application of a security-related perturbing event, and provide alerts upon their occurrence.

ver más...

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Systems and methods for intelligent disinfection of disinfection environments through use of ultra-violet lights

Publicada en Patentscope_Domótica, 13/04/2021.

Solicitante: SIEMENS INDUSTRY INC
A building automation system (BAS) may control ultra-violet (UV) lights to intelligently disinfect a disinfection environment (e.g., a patient room). In some examples, the BAS includes a disinfection environment tracking engine and a UV light control engine. The disinfection environment tracking engine may access patient room data indicative of a state of a patient room of a patient, medical data of the patient, the medical data of the patient specifying a medical condition of the patient, real-time location data of the patient.

ver más...

An intelligent cardio-pulmonary screening device for telemedicine applications

Publicada en Espacenet_Power Electronic, 08/04/2021.

An intelligent and real-time cardio-pulmonary screening device (100) is disclosed. The device comprises a housing that encloses a body, said body comprising: a display unit (101); a plurality of light emitting diode (LED) indicators (102, 103); a first toggle switch (104); a second toggle switch (105); a plurality of volume controls (106, 107); a third toggle switch; an output port (109); a switch (110); a charging port (111); a temperature sensor; a transducer unit (112); and an artificial intelligence module.

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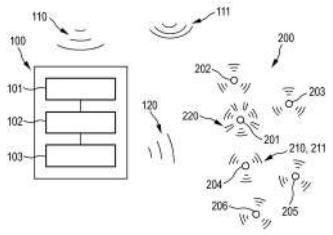
Control module for controlling a smart home device

Publicada en Patentscope_Domótica, 07/04/2021.

Solicitante: SIGNIFY HOLDING B.V. [NL]



he present invention relates to a control module (100) for controlling a smart home device (201), wherein the smart home device is part of a smart home device system (200). The control module comprises a system information providing unit (101) for providing information about the smart home device system, an allocating unit (102) for allocating a part of a technical resource for a function of the smart home device based on the provided information about the smart home device system, and a control unit (103) for controlling the smart home device such that the smart home device uses only the allocated part of the technical resource for executing the function.

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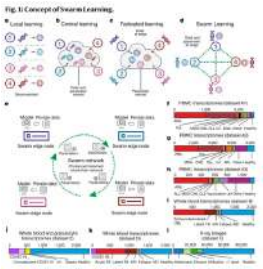
PUBLICACIONES CIENTÍFICAS

Swarm Learning for decentralized and confidential clinical machine learning

Publicada en https://www.nature.com/, 25/05/2021.



Fast and reliable detection of patients with severe and heterogeneous illnesses is a major goal of precision medicine1,2. Patients with leukaemia can be identified using machine learning on the basis of their blood transcriptomes3. However, there is an increasing divide between what is technically possible and what is allowed, because of privacy legislation4,5. Here, to facilitate the integration of any medical data from any data owner worldwide without violating privacy laws, we introduce Swarm Learning—a decentralized machine-learning approach that unites edge computing, blockchain-based peer-to-peer networking and coordination while maintaining confidentiality without the need for a central coordinator, thereby going beyond federated learning.

ver más...

Friends from the Future: A Scoping Review of Research into Robots and Computer Agents to Combat Loneliness in Older People

Publicada en https://www.dovepress.com, 24/05/2021.

Loneliness is a common problem in older adults and contributes to poor health. This scoping review aimed to synthesize and report evidence on the effectiveness of interventions using social robots or computer agents to reduce loneliness in older adults and to explore intervention strategies.

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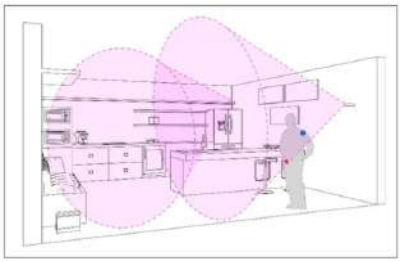
HABITAT: An IoT Solution for Independent Elderly

Publicada en Tecnologías Inteligentes, 14/04/2021.

In this work, a flexible and extensive digital platform for Smart Homes is presented, exploiting the most advanced technologies of the Internet of Things, such as Radio Frequency Identification, wearable electronics, Wireless Sensor Networks, and Artificial Intelligence. Thus, the main novelty of the paper is the system-level description of the platform flexibility allowing the interoperability of different smart devices. This research was developed within the framework of the operative project [...]



ver más...

Contribution of end-to-end deep learning models for spoken language understanding in smart homes ; Apport des modèles neuronaux de bout-en-bout pour la compréhension automatique de la parole dans l'habitat intelligent

Publicada en Tecnologías Inteligentes, 13/04/2021.

Smart speakers offer the possibility of interacting with smart home systems, and make it possible to issue a range of requests about various subjects. They represent the first ambient voice interfaces that are frequently available in home environments. Very often they are only capable of inferring voice commands of a simple syntax in short utterances in the realm of smart homes that promote home care for senior adults. They support them during everyday situations by improving their quality of li[...]

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Proposal on effectiveness of ontology cooperation in web of things system

Publicada en Tecnologías Inteligentes, 08/04/2021.

In smart home, one area of the Internet of Things (IoT), has interoperability problem. For smart speakers operationg a smart home with a Voice User Interface (VUI), this problem reduces convenience. The Web of Things (WoT), which applies the Web to the IoT, is effective at solving this problem. In this research, we examine how to use the ontology in WoT and propose a method to construct s general-purpose system.

ver más...

Systematic Literature Review of Smart Home Monitoring Technologies Based on IoT for the Elderly

Publicada en Tecnologías Inteligentes, 03/04/2021.

Smart home technology implementation remains an essential aspect of Internet of Things (IoT). It provides needed living support and convenience for elderly people in society. Despite the remarkable achievements in smart home monitoring technology studies, a systematic literature review (SLR) on smart home technology implementation is lacking. There is a limited number of SLR studies on smart home monitoring technology. Therefore, the current study assesses the literature to collect the evidence [...]

ver más...

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Design of Smart Home Implementation Within IoT Natural Language Interface

Publicada en Tecnologías Inteligentes, 03/04/2021.

To process continuous sensor data in Internet of Things (IoT) environments, this study optimizes queries using multiple MJoin operators. To achieve efficient storage management, it classifies and reduces data using a support vector machine (SVM) classification algorithm. A global shared query execution technique was used to optimize multiple MJoin queries. By comparing each kernel function of the SVM classification algorithm, the system's performance was evaluated through experiments according t[...]

ver más...

Image Analysis System of Intelligent Smart Home Based on VR

Publicada en Tecnologías Inteligentes, 03/04/2021.

With the increasing aging today, the rich life experience has become a topic that people are urgently concerned about. This research mainly discusses the research and application of VR-based smart home image analysis system. This research combines the intelligent design and implementation of the image analysis system of VR technology. The system uses 2D image processing, segmentation, and recognition to filter out information that is of interest to the image, which is helpful for a reasonable pl[...]

ver más...

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Preference Preserved Privacy Protection Scheme for Smart Home Network System Based on Information Hiding

Publicada en Tecnologías Inteligentes, 03/04/2021.

Smart home is an emerging form of the Internet of things (IoT), which provides a convenient and comfortable living environment for the smart home users. With the explosive growth of smart home information, people pay more attention to the privacy protection of smart home, including the choice of privacy and effective privacy protection scheme. This paper proposes a privacy protection scheme based on information hiding, the scheme guarantees the sensitive data transmitted securely. First, the sma[...]

ver más...

A Fast and Optimal Smart Home Energy Management System: State-Space Approximate Dynamic Programming

Publicada en Tecnologías Inteligentes, 03/04/2021.

Dynamic programming (DP) can be used to generate the optimal schedules of a smart home energy management system (SHEMS), however, it is computationally difficult because we have to loop over all the possible states, decisions and outcomes. This paper proposes a novel state-space approximate dynamic programming (SS-ADP) approach to quickly solve a SHEMS problem but with similar solutions as DP. The state-space approximations are made using a hierarchical approach, which involves clustering and ma[...]

ver más...

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Optimal Control Based on Scheduling for Comfortable Smart Home Environment

Publicada en Tecnologías Inteligentes, 03/04/2021.

Smart home environments account to a major portion of the total energy consumption in today's world. The residents of smart home environments wish to find solutions that reduce the energy costs along with providing an optimal indoor environment for the residents. Another significant aspect in smart home systems is efficiency of tasks management and control commands' execution for smart home actuators. In this paper, we propose an optimal control solution for smart home environment based on smart[...]

ver más...

Toward Elderly Care: A Phase-Difference-of-Arrival Assisted Ultra-Wideband Positioning Method in Smart Home

Publicada en Tecnologías Inteligentes, 03/04/2021.

Location-based services (LBSs) for elderly care is a trending topic in smart homes. The key issue is the high accurate positioning for the elderly. Ultra-wideband (UWB) is a centimeter-level positioning accuracy in line-of-sight (LOS) environments. However, most of existing UWB positioning methods need non-line-of-sight (NLOS) identification and compensation, and thus leading to severe deterioration in positioning accuracy in presence of complex indoor environments where the elderly lived. This [...]

ver más...

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A Permissioned Blockchain System to Reduce Peak Demand in Residential Communities via Energy Trading: A Real-World Case Study

Publicada en Tecnologías Inteligentes, 03/04/2021.

Residential energy trading systems (RETS) enable homeowners with distributed energy resources (DERs) to participate in virtualized energy markets that have the potential to reduce the peak demand of residential communities. Blockchains are key enablers of RETS, by virtue of providing a decentralized, self-governed network that mitigates concerns regarding privacy and transparency. However, more real-world case studies are needed to evaluate the techno-economic viability of blockchain-based RETS [...]

ver más...

A blockchain-based smart home gateway architecture for preventing data forgery

Publicada en Tecnologías Inteligentes, 03/04/2021.

Abstract With the advancement of Information and Communication Technology (ICT) and the proliferation of sensor technologies, the Internet of Things (IoT) is now being widely used in smart home for the purposes of efficient resource management and pervasive sensing. In smart homes, various IoT devices are connected to each other, and these connections are centered on gateways. The role of gateways in the smart homes is significant, however, its centralized structure presents multiple security vu[...]

ver más...

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Scenarios and use Cases for the energy aware smart home

Publicada en Tecnologías Inteligentes, 03/04/2021.

Das Thema dieser Arbeit umfasst die Anwendungsmöglichkeiten von Hausautomationstechnik in privaten Haushalten, oftmals auch Smart Home genannt. Durch den stetig steigenden Strombedarf von privaten Haushalten wird dieser Bereich, der bis jetzt eher in Bürogebäuden Anwendung fand, auch für den privaten Gebrauch interessant. Eine sorgfältige Evaluierung der Anwendungsmöglichkeiten und ihrer Zweckdienlichkeit muss untersucht werden. Vor allem die erweiterten Möglichkeiten, die der Einsatz von optimi[...]

ver más...

Towards Secure and Usable Authentication for Voice-Controlled Smart Home Assistants

Publicada en Tecnologías Inteligentes, 03/04/2021.

Arbeit an der Bibliothek noch nicht eingelangt - Daten nicht geprüft ; Abweichender Titel nach Übersetzung der Verfasserin/des Verfassers ; Smart-Home-Assistenten wie Amazon Alexa und Google Home werden derzeit üblicherweise für nicht-vertrauliche oder nicht-sicherheitsrelevante Tätigkeiten wie Wetterberichtabfragen oder die Steuerung verknüpfter Geräte verwendet. In ausgewählten Märkten sind jedoch bereits sicherheitskritische Anwendungsfälle wie Online-Banking und sprachgesteuerte Türschlösser[...]

ver más...

Volver al índice

Predictive analytics for smart homes using serverless edge computing

Publicada en Tecnologías Inteligentes, 03/04/2021.

Smart Home Technologien werden immer populärer und damit einhergehend immer öfter in unser tägliches Leben integriert. Das Internet of Things (IoT) ermöglicht die Kommunikation zwischen einer Vielzahl an smarten Geräten im Smart Home um mittels Predictive Data Analytics den Wohnkomfort zu verbessern und Haussysteme zu automatisieren. Zum größten Teil ist das heutige IoT mit Cloud Computing realisiert, weil es praktisch unlimitierte Rechenund Speicherkapazität bereitstellt. Die zentrale Cloud unt[...]

ver más...

Smart home control based on behavioural profiles

Publicada en Tecnologías Inteligentes, 03/04/2021.

Systeme der Heim- und Gebäudeautomation sind durch eine hohe Interaktion mit Verbrauchern charakterisiert, wobei den Begriffen Ubiquität und Kooperation ein wesentlicher Stellenwert zukommt. Die vorliegende Arbeit postuliert aus einer holistischen Top-Down-Perspektive eine Methodologie für den Entwurf neuer adaptiver Smart Homes, in denen die Verbrauchergewohnheiten als wesentliche Einflussgrößen für Dienste der Heimautomation verwendet werden, um eine generelle Verbesserung der Gesamtperformanc[...]

ver más...

Volver al índice

Defining an actor ontology for increasing energy efficiency and user comfort in smart homes ; Defining an Actor Ontology for Increasing Energy Efficiency in Smart Homes

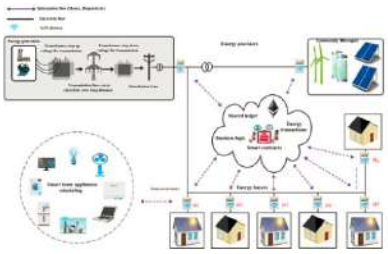
Publicada en Tecnologías Inteligentes, 03/04/2021.

Abweichender Titel laut Übersetzung der Verfasserin/des Verfassers ; Zsfassung in dt. Sprache ; In den letzten Jahren haben Smart Homes immer mehr an Bedeutung gewonnen. Ein Smart Home, oder auch Intelligentes Wohnen, offeriert seinen Bewohnern diverse Vorteile, wie zum Beispiel: (i) gesteigerte Energieeffizienz, (ii) reduzierte Wohnkosten und (iii) Unterstützung im Alltag. Als Teil eines Forschungsprojektes namens ThinkHome, ein auf Ontologien und künstlicher Intelligenz basierendes Smart Home,[...]

ver más...

Blockchain Enabled Distributed Demand Side Management in Community Energy System With Smart Homes

Publicada en Tecnologías Inteligentes, 03/04/2021.



Existing work in energy demand side management focuses on the interaction between the utility grid and consumers. However, the previous technique is not focused on energy trading in local community of a renewable energy generation, distributed demand side management and not suitable for real-time environment. This paper presents a distributed demand side management system among multiple homes in community microgrid, with the integration of the internet of things smart meter and in the presence o[...]

ver más...

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Graph-Based Semi-Supervised Learning for Activity Labeling in Health Smart Home

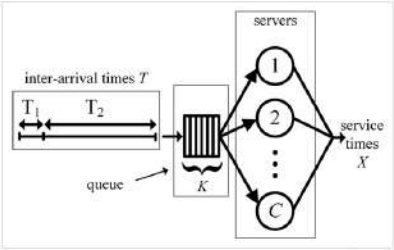
Publicada en Tecnologías Inteligentes, 03/04/2021.

Health Smart Home (HSH) is an important part of smart city. This technology provides a new kind of remote medical treatment, and can effectively alleviate the shortage of medical resources caused by aging population and help elderly people live at home more safely and independently. Activity recognition is the core of Health Smart Home. However, constructing activity recognition models usually requires a large amount of labeled data, which imposes a heavy burden on manual labeling. In this artic[...]

ver más...

Synthetic residential load models for smart city energy management simulations

Publicada en Tecnologías Inteligentes, 03/04/2021.



The ability to control tens of thousands of residential electricity customers in a coordinated manner has the potential to enact system-wide electric load changes, such as reduce congestion and peak demand, among other benefits. To quantify the potential benefits of demand-side management and other power system simulation studies (e.g. home energy management, large-scale residential demand response), synthetic load datasets that accurately characterise the system load are required. This study de[...]

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