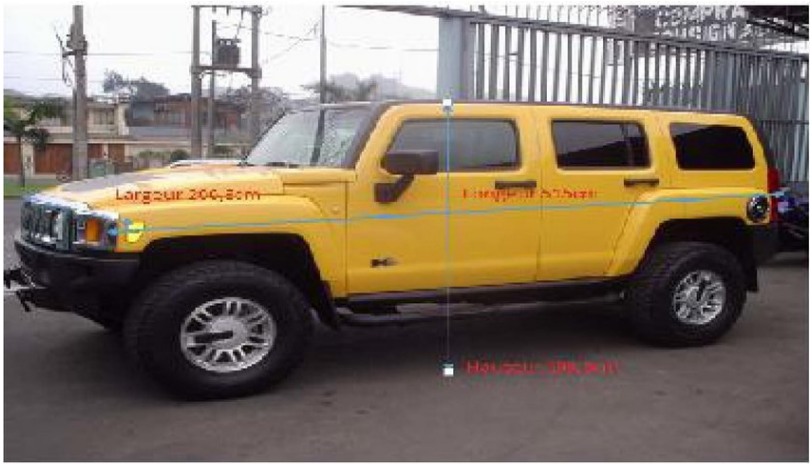

Dimension of a real vehicle HAMER

diodes (LEDs) is not always practicable in the outdoor VLC environment, (ii) the level of interference and noise is considerably higher in outdoor VLC; (iii) ma...

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Citations

... The VLC can also pave the way for vehicle-tovehicle (V2V) and vehicle-to-infrastructure (V2I) connectivity through LED-based front and rear lights. As demonstrated in Fig.3(c), these lights may communicate with one another and other street lighting equipment to offer safetyrelated data to the vehicles on the road [73]- [75] . New research avenues exist for developing this domain, including seamless connection, edge computing, fog computing, software-defined and named data networks, and security [76]- [78]. ...

Optical Wireless Communications: Research Challenges for MAC Layer

Article Full-text available

Jan 2022

Monica Bhutani · Brejesh Lall · Monika Agrawal

Optical wireless communication (OWC) has emerged as a potential addition to current wireless technologies because of its high capacity, security, and unlicensed spectrum. In addition, owing to recent advancements in optoelectronic components and the industry'…

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... Isso viabiliza a comunicação entre veículos e a infraestrutura (V2I -Vehicle-to-Infrastructure e I2V -Infrastructure-to-Vehicle) e entre veículos (V2V -Vehicle-to-Vehicle) [70]. Alguns projetos aplicam o V2V utilizando técnicas de VLC para comunicação entre os faróis dos automóveis [71] e [72] . Nesses trabalhos,é sugerida a definição de protocolos de comunicação para facilitar a troca de informações entre veículos, assim como dados de diversas situações nas quais eles podem se encontrar, tais como em cruzamentos, comboio de veículos, etc.É importante ressaltar que a VLC, em uma análise mais ampla, pode também ser disponibilizada na iluminação pública, contribuindo com o desenvolvimento das cidades inteligentes [2], [59], [73] e [74]. ...

... Outro experimento aplicado nesse contexto, buscou implementar apenas a comunicação pela luz visível [72] , onde duas miniaturas de veículos se comunicavam por meio de microcontroladores. Sempre que o veículo da frente detecta um obstáculo, este envia uma mensagem por meio do VLCà miniatura seguinte para que ela pare. ...

Visible Light Positioning and Communication Methods and Their Application in the Intelligent Mobility

Article

Nov 2021 · Lat Am Trans IEEE

Ana Luisa Rodrigues Goncalves · Alvaro Henrique Alves Maia · Mateus Rodrigues Santos · Danilo Alves de Lima · Arthur Miranda Neto

The autonomous mobility field is changing worldwide, mainly due to new technologies developed by different actors. However, there are still open challenges related to vehicle-to-vehicle communication (V2V) and vehicle-to-infrastructure communication (V2I), as…

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... Li-Fi provides secured, low cost, easy data transmission and reliable communication. Image compression and decompression algorithm reduces communication delay [11] A V2V communications architecture that allows vehicles to easily communicate with each other thereby improving driver safety The chosen work system was discovered to be a currant source with variable light intensity, measured in LUX, and higher luminous output. At the receptor, a photodiode converts the light signal to an electrical signal, which is then decoded to retrieve the data [12] Li-Fi communication for the successful transfer of image and textual data that uses an LED, a photodiode/phototransistor to transfer and receive data. ...

An Image Transmission Technique using Low-Cost Li-Fi Testbed

Conference Paper Full-text available

Aug 2021

Sanket Salvi · Harsh Maru · Niteesh Kumar · Rashad Ahmed

Visible Light Communication (VLC) or Light Fidelity (Li-Fi) with Light Emitting Diodes (LEDs) as transmitter and light sensor as receiver will turn the present lightening system into a communication system. Li-Fi based data communication provides secure…

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... However, the braking process on the vehicle must be considered, so the safety distance must be increased. Another study carried out measurements of light intensity on a unidirectional VLC-V2V prototype [4] . The results obtained are very good, but testing the light detection needs to consider using two-way communication. ...

Experimental Analysis of Vehicle-to-Vehicle Communication using Light Detection and Ranging (LIDAR) for Detection and Data Transmission

Conference Paper Full-text available

Apr 2021

Dwieka Septian Arif Prasetya · Dharu Arseno · Brian Pamukti · Hurianti Vidyaningtyas

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Visible Light Positioning and Communication Methods and Their Application in the Intelligent Mobility

Article

Dec 2020 · Lat Am Trans IEEE

Ana Luisa Rodrigues Goncalves · Alvaro Henrique Alves Maia · Mateus Rodrigues Santos · Danilo Alves de Lima · Arthur Miranda Neto

The autonomous mobility field is changing worldwide, mainly due to new technologies developed by different actors. However, there are still open challenges related to vehicle-to-vehicle communication (V2V) and vehicle-to-infrastructure communication (V2I), as…

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... In this project context, Li-Fi has the potential to provide high-speed data communication with improved energy efficiency without introducing any flickering to the end user. Li-Fi is unlicensed and hardware readily available, which can be used for data transmission [26] . The proposed framework is designed that every vehicle has a vehicular communication device with Wi-Fi and Li-Fi. ...

A comprehensive study of vehicle communication framework in Malaysia

Article Full-text available

Mar 2020 · J Phys Conf

Sumendra Yogarayan · Siti Fatimah Abdul Razak · Afizan Azman · Mohd Fikri Azli Abdullah · Siti Zainab Ibrahim

In the sector of transportation, vehicle to vehicle communication and vehicle to infrastructure communication are becoming a trending topic of studies, as effective information transfer is required for most critical systems. Many protocols were then…

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... These signals have been trained by using a neural network model for efficient command recognition. Concepts of artificial intelligence and reasoning have been formulated as algorithms (Bao et al. 2015; Mohammed et al. 2016) , and the processing modules in such robotic platforms have been trained to learn them to mimic human activities to a great extent. From the literature (Gulin and Sazli 2010), it could be observed that most of these platforms work based on

transmission and reception of commands and voice signals uttered by humans in applications related to performing specific and user-defined tasks (Memon et al. 2016). ...

A novel MFCC-NN learning model for voice communication through Li-Fi for motion control of a robotic vehicle

Article Full-text available

Sep 2019 · SOFT COMPUT

V. Parthasaradi · P. Kailasapathi

Robotic vehicles have been actively researched in recent times to automate most of the commercial applications to ease the daily life of consumers. Robotic automation has been an integral part of industrial concerns drastically reducing the manpower and effor…

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... Applications of VLC include vehicular networks, indoor mobile network, indoor localization, visible light sensing, gesture recognition, under water communication systems, security systems and health sector [15]. The existence of LEDs in automobiles promotes the use of VLC in transportation systems [16] [17] [18][19]. In [20], the authors suggest the VLC-based vehicular network for urban mobile crowd sensing that aims at supporting driving automation. ...

Adaptive Polling Medium Access Control Protocol for Optic Wireless Networks

Article Full-text available

Mar 2019

Dawson Ladislaus Msongaleli · Kerem Kucuk · Adnan Kavak

The emergence of optical wireless networks (OWNs) is a potential solution to the quest for the increasing bandwidth demand. Existing bandwidth assignment strategies are not suitable for OWNs, considering factors such as differences between the physical…

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... The choice of this component is critical due to its response time effects on the system behavior. If the optical codeword (1, 7, 13) is considered, the generated output signals correspond to S 0 to configure the first loop, S 1 to configure the second loop, and S 2 to configure the third loop, as presented in Figure 6. The signal-to-noise ratio (SNR) expression after i rounds in the loop is given by ...

All-optical VPN platform for multisite VLC-based networks

Article Full-text available

Feb 2019

Meriem Salhi · Maha Sliti · Noureddine Boudriga

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Conference Paper Full-text available

May 2023

Ebtihaj Zaki

اسرني أن أخبركم بإصدار كتاب وقائع مؤتمر مينار العلمي الدولي الثامن للعلوم الصرفة والتطبيقية والتكنولوجية الذي عُقد في الفترة من 14-15 شباط لعام 2023، والذي حمل الترميز الدولي 978-625-99934-0-9. وقد تم جمع ونشر مقالات وأوراق العمل المقدمة في المؤتمر في هذا الكتاب، ويهدف إلى توثيق المساهمات العلمية والأبحاث الحديثة في مجال العلوم…

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