

2024 Symposium on Internet of Things (SIoT 2024)

**Rio de Janeiro, Brazil
15-18 October 2024**



**IEEE Catalog Number: CFP24DZ8-POD
ISBN: 979-8-3315-0747-3**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24DZ8-POD
ISBN (Print-On-Demand):	979-8-3315-0747-3
ISBN (Online):	979-8-3315-0746-6

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Experimental Platform for Testing Open Process Automation Technologies Based on OPC UA and IEC 61499	1
<i>Egydio Tadeu G. Ramos, Anna Paula V. De A. Aguiar, George Acioli Júnior, Péricles Rezende Barros, Marcelo Lopes De Lima</i>	
Performance Analysis of LoRaWAN on AU915 Frequency Band for Ambience Monitoring System in Brazil	6
<i>Dhiego Fernandes Carvalho, Paolo Ferrari, Eduardo Paciência Godoy, Emiliano Sisinni</i>	
IoT-Based Wireless Sensor Networks for Monitoring Drinking Water Treatment Plants	11
<i>Luiz Octávio Martini Lima, Lucas Carvalho Goncalves, Gustavo Campos Menezes, Lucas Silva De Oliveira</i>	
IoT-Based Architecture for Real-Time Measurement and Monitoring of Industrial Parameters	16
<i>Marcela Oliveira Coelho, Tiago Antônio Liduário, Víctor César Santiago Silva</i>	
Implementing Throttling to Enhance Availability in Energy-Driven IoT Devices	21
<i>Paulo Henrique De Queiroz Lopes, Gibeon Soares De Aquino Junior</i>	
Capture of Air Temperature and Relative Air Humidity Related to Thermal Discomfort of Office Occupants Through a Cyber-Physical System.....	26
<i>Antonio Pestana Neto, Ranulfo Acir O Resende, Francisco Edeneziano Dantas Pereira, Rodrigo Bonacin, Josué J G Ramos</i>	
IoT Promoting Student Engagement in Class.....	30
<i>Alexandre Bellargus S. Costa, Joaci Campos S. Neto, Rafaella C. Santos, Deodato V. Bastos Neto, Cecilia A. C. Cesar</i>	
Development of an IoT Based Sensing System for Structural Health Monitoring Using Low-Cost Accelerometers.....	35
<i>Felipe Minoru Costa Monobi, Andressa Corrente Martins, Pedro Henrique Cerento De Lyra, Julia Meneses Roberto, Leonardo Del Bel Sonoda, Brenda Chaves Coelho Leite</i>	
Evaluating QoE in Cloud-Based Virtual Reality Systems: A Pilot Study.....	40
<i>Mariana Godoy, Fabiana Machado, Igor Vieira, Ricardo Mello, Anselmo Frizera</i>	
On the Design of an Inference Circuit for Tiny Machine Learning.....	45
<i>Thiago H. Dos Santos, Cristina Meinhardt, Fabian L. Cabrera</i>	
Smart Line-Of-Sight Identification in LoRaWAN Networks	50
<i>Lucas L. De Oliveira, Leonardo A. De Oliveira, Edelberto F. Silva, Vicente A. De Sousa, Álvaro A. M. De Medeiros</i>	
TinyML Implementation and Optimization for Fuel Type Classification on OBD-II Edge Device	55
<i>Miguel Amaral, Morsinaldo Medeiros, Matheus Andrade, Thommas Flores, Marianne Silva, Ivanovitch Silva</i>	
Energy Harvesting System Based on a Hydro Electric Generator for Smart Irrigation Systems	60
<i>Luiz F. P. Oliveira, Jéssica M. Mello, Luís F. C. Duarte, Flávio J. O. Morais</i>	

Analytical Expression for Recommendation ITU-R P.1546-6 Propagation Curves of Land Paths Up to 20 Km Using Symbolic Regression.....	65
<i>Guilherme Kneitz De Oliveira, Diego Barreto Haddad, Gilson Antonio Giraldi, Maurício Henrique Costa Dias</i>	
Green Wave Coordination Through Wireless Traffic Light Controller System.....	70
<i>Luiz F. P. Oliveira, Paulo D. G. Luz, Leandro T. Manera</i>	
A Low-Memory Implementation of a Hybrid Trusted Platform Module	75
<i>Felipe José Aguiar Rampazzo, Rodrigo Duarte De Meneses, Caio Teixeira, Marco A. A. Henriques</i>	

Author Index