

2020 International Conference of Digital Transformation and Innovation Technology (Incodtrin 2020)

**Quito, Ecuador
28 – 30 October 2020**



**IEEE Catalog Number: CFP20Z70-POD
ISBN: 978-1-6654-4618-1**

**Copyright © 2020 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:	CFP20Z70-POD
ISBN (Print-On-Demand):	978-1-6654-4618-1
ISBN (Online):	978-1-6654-2319-9

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

2020 International Conference of Digital Transformation and Innovation Technology (Incodtrin) **Incodtrin 2020**

Table of Contents

Message from General Chairs	ix
Message from Program Chairs	x
Organizing Committee	xi
Program Committee	xii
Reviewers	xiv
Steering Committee	xvi
Sponsors	xvii

Session 3

Analysis of Approaches of IoT Solutions for Smart Livestock Management	1
<i>Estevan R Gómez-Torres (Universidad UTE, Universidad de las Fuerzas Armadas ESPE, Ecuador) and Bryan Rodrigo Teran Tamayo (Universidad UTE, Ecuador)</i>	
Water Flow Monitoring using IoT Solutions	6
<i>Estevan R Gómez-Torres (Universidad UTE, Universidad de las Fuerzas Armadas ESPE, Ecuador) and Brigith Angelina Ullauri Guaranga (Universidad UTE, Ecuador)</i>	
A Prototype Proposal for Detection and Reduction of Stress by using Brain Waves and IoT	12
<i>David Llerena (Universidad de las Fuerzas Armadas ESPE, Ecuador), Ramiro Delgado (Universidad de las Fuerzas Armadas ESPE, Ecuador), Christian Ubilluz (Universidad de las Fuerzas Armadas ESPE, Ecuador), and Roberto López (Universidad Regional Autónoma de los Andes Uniandes, Ecuador)</i>	

Session 4

Cookie Vulnerability Analysis at Apex 5	17
<i>Esteban Crespo-Martinez (Universidad del Azuay, Ecuador), Catalina Astudillo-Rodriguez (Universidad del Azuay, Ecuador), Ana Vasquez-Aguilera (Universidad del Azuay, Ecuador), and Gabriela Chica (Universidad del Azuay, Ecuador)</i>	

Alternative and Augmentative Communication System Focused on Children with Autism Spectrum Disorder .22.....	
	<i>Fabian Carvajal (Universidad del Azuay, Ecuador), Esteban Crespo-Martínez (Universidad del Azuay, Ecuador), Adriana León-Pesantez (Universidad del Azuay, Ecuador), Eulalia Tapia (Universidad del Azuay, Ecuador), and Catalina Astudillo-Rodríguez (Universidad del Azuay, Ecuador)</i>
Proposal to Implement QR Codes for the Company Metal Print .29.....	
	<i>Zully Campos-González (Universidad del Azuay, Ecuador), Michelle Maldonado-Vélez (Universidad del Azuay, Ecuador), Isabel Izquierdo-Narváez (Universidad del Azuay, Ecuador), and Esteban Crespo-Martínez (Universidad del Azuay, Ecuador)</i>

Session 5

Analysis of Covid-19 Impact in Mexico City using Text Mining and Twitter .33.....	
	<i>Josimar Edinson Chire Saire (University of São Paulo, Brazil) and Anabel Pineda-Briseño (Tecnológico Nacional de México/Instituto Tecnológico de Matamoros, Mexico)</i>
Hashtags Recommendations in Twitter Based on Collaborative Filtering .38.....	
	<i>Luis Pazmiño Torres (Universidad Técnica Particular de Loja, Ecuador) and Priscila Valdiviezo-Díaz (Universidad Técnica Particular de Loja, Ecuador)</i>
Covid-19 Surveillance in Peru on April using a Social Network and Text Mining .45.....	
	<i>Josimar Edinson Chire Saire (University of São Paulo (USP), Brazil) and Jimmy Frank Oblitas Cruz (Universidad Privada del Norte, Brazil)</i>

Session 6

Training of Teachers in the use of Technologies to Benefit the Hearing Impaired Student and Facilitate their Inclusion in the Academic World .50.....	
	<i>Cristiano da Silva Benites (Universidade Presbiteriana Mackenzie, Brasil) and Ismar Frango Silveira (Universidade Presbiteriana Mackenzie, Brasil)</i>
Videogames as a Proposal for Learning in Entrepreneurship: A Systematic Review .54.....	
	<i>Esteban Crespo-Martínez (Universidad del Azuay, Ecuador), Veronica Rosales (Universidad del Azuay, Ecuador), Andrés Patiño (Universidad del Azuay, Ecuador), Claudia Contreras Silva (Universidad del Azuay, Ecuador), and Camila Bermeo (Universidad del Azuay, Ecuador)</i>
Design of the Architecture for Text Recognition and Reading in an Online Assessment Applied to Visually Impaired Students. .59.....	
	<i>Alex León-Montaño (Artificial Intelligence Lab, Universidad Técnica Particular de Loja, Ecuador) and Luis Barba-Guaman (Artificial Intelligence Lab, Universidad Técnica Particular de Loja, Ecuador)</i>

Session 7

Application of Mobile Window Filters to Increase the Precision in the Distance Estimation of RSSI Blue-Tooth .66.....	
	<i>Estevan R Gómez-Torres (Universidad UTE, Universidad de las Fuerzas Armadas ESPE, Ecuador) and Diego Ordoñez (Universidad UTE, Ecuador)</i>

- An Approach of Low-Cost Software-Defined Network (SDN) Based Internet of Things .70.....
*Santiago Chilibingua (Universidad Tecnica de Ambato, UTA, Ecuador),
 Santiago Manzano (Universidad Tecnica de Ambato, UTA, Ecuador),
 Patricio Córdova (Universidad Tecnica de Ambato, UTA, Ecuador), and
 Marcelo V. Garcia (University of the Basque Country, UPV/EHU, Spain,
 Universidad Tecnica de Ambato, UTA, Ecuador)*
- A New Network-Base High-Level Data Classification Methodology (Quipus) by Modeling
 Attribute-Attribute Interactions .75.....
*Zuñiga Esteban Wilfredo Vilca (FFCLRP-USP, Ribeirão Preto, Brasil) and
 Zhao Liang (FFCLRP-USP, Ribeirão Preto, Brasil)*

Session 8

- Experimental Evaluation of Accuracy of Most Common Machine Learning Models using Pulsar
 Data Set .80.....
*Alexander Ylner Choquenaira Florez (Instituto de Ciências Matemáticas
 e de Computação (ICMC), University of São Paulo (USP), Brazil),
 Braulio Valentin Sánchez Vines (Instituto de Ciências Matemáticas e
 de Computação (ICMC), University of São Paulo (USP), Brazil), Diana
 Carolina Roca Arroyo (Instituto de Ciências Matemáticas e de
 Computação (ICMC), University of São Paulo (USP), Brazil), Josimar
 Edinson Chire Saire (Instituto de Ciências Matemáticas e de Computação
 (ICMC), University of São Paulo (USP), Brazil), and Patrícia Batista
 Franco (Instituto de Ciências Matemáticas e de Computação (ICMC),
 University of São Paulo (USP), Brazil)*
- Object Detection in Rural Roads using Tensorflow API .84.....
*Luis Barba-Guaman (Universidad Técnica Particular de Loja, Ecuador),
 José Eugenio Naranjo (Universidad Politécnica de Madrid, Espana), and
 Anthony Ortiz (Universidad Técnica Particular de Loja, Ecuador)*
- Data Mining Techniques Applied in the Neuropsychology Domain: A Systematic Review .89....
*David Cordero (Universidad del Azuay, Ecuador), Luis Miguel Alvear
 (Universidad del Azuay, Ecuador), Marcos Orellana (Universidad del
 Azuay, Ecuador), María-Inés Acosta (Universidad del Azuay, Ecuador),
 Alexandra Bueno (Universidad del Azuay, Ecuador), Juan-Fernando Lima
 (Universidad del Azuay, Ecuador), Andrés Patiño (Universidad del
 Azuay, Ecuador), and Priscila Cedillo (Universidad del Azuay, Ecuador;
 Universidad de Cuenca, Ecuador)*

Session 9

- Diagnosis of Pedagogical and Digital Strategies used by the Teachers in Financial
 Accounting II Subject. Case: Accounting and Auditing Career .97.....
*Vilma Lizarda Vargas (Universidad Técnica del Norte, Ecuador),
 Ibadango Elizabeth Janeth (Universidad Técnica del Norte, Ecuador),
 Vargas Mariela Elizabeth (Universidad Técnica del Norte, Ecuador), and
 Ceballos Páez Harold (Universidad Politécnica Estatal del Carchi,
 Ecuador)*
- Virtual Learning Objects in the Teaching of Financial Accounting II of the Accounting and
 Auditing Career at Técnica del Norte University .103.....
*Vargas Chagna Lizarda (Universidad Técnica del Norte, Ecuador),
 Gallegos Varela Mónica (Universidad Técnica del Norte, Ecuador), and
 Jaramillo Mediavilla Lorena (Universidad Técnica del Norte, Ecuador)*

Session 10

- Towards a System Monitoring Modeling Language (SyMoLa) .110.....
Andrés García (Universidad de Cuenca, Ecuador) and Priscila Cedillo (Universidad de Cuenca, Ecuador)
- Big Data Architecture Proposal for Vehicular Traffic Detection .118.....
Nelson Iván Herrera Herrera (Universidad UTE, Quito)

Session 11

- Evaluating Named Entities Recognition (NER) Tools vs Algorithms Adapted to the Extraction of Locations .123.....
Marcos Orellana (Universidad del Azuay, Ecuador), Catalina Fárez (Universidad del Azuay, Ecuador), and Paúl Cárdenas (Universidad de Cuenca, Ecuador)
- Comparative Performance of Collaborative Filtering Recommendations Methods for Explaining Recommendation .129.....
Priscila Valdiviezo-Diaz (Universidad Técnica Particular de Loja, Ecuador) and Fernando Ortega (ETSI de Sistemas Informáticos, Universidad Politécnica de Madrid, España)

- Author Index 135**