

# **2022 IEEE MetroCon**

**Hurst, Texas, USA  
3 November 2022**



**IEEE Catalog Number: CFP22MTR-POD  
ISBN: 978-1-6654-5592-3**

**Copyright © 2022 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:	CFP22MTR-POD
ISBN (Print-On-Demand):	978-1-6654-5592-3
ISBN (Online):	978-1-6654-5591-6

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## Table of contents

The Niftiness of Executable MBSE Black Box Models: A Satellite Subsystem Exemplar <i>Awele Anyanhun</i>	1
Measuring Value <i>Steve Lincoln</i>	4
Edge AI: Addressing the Efficiency Paradigm <i>Colleen P. Bailey, Arthur C. Depoian II and Ethan R. Adams</i>	7
Classifying the Devil in the Dust: Edge AI <i>Jared Riley, Shannon Williams, Corey Reyna, Ethan Adams, Arthur C. Depoian II, Colleen P. Bailey and Parthasarathy Guturu</i>	10
Recent Advances in Entropy Based Image Compression <i>Arthur C. Depoian II, Ethan Adams, Aidan Kurz, Colleen P. Bailey, Parthasarathy Guturu and Kamesh Namuduri</i>	13
Improved Neural Network Arrhythmia Classification Through Integrated Data Augmentation <i>Garrett I. Cayce, Arthur C. Depoian II, Colleen P. Bailey and Parthasarathy Guturu</i>	16
WMC-ViT: Waste Multi-class Classification Using a Modified Vision Transformer <i>Aidan Kurz, Ethan Adams, Arthur C. Depoian II, Colleen P. Bailey and Parthasarathy Guturu</i>	19
Optimized Machine Learning Model for Predicting Groundwater Contamination <i>Hirak Mazumdar, Michael P Murphy, Shilpa Bhatkande, Hilary P Emerson, Daniel I Kaplan and Hardik A Gohel</i>	22
Performance Analysis of a Kirigami-shaped Temperature Sensor <i>Nafize Ishtiaque Hossain and Shawana Tabassum</i>	25