



IEEE 4th International Conference on Computing and Machine
Intelligence
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Central Michigan University

CERTIFICATE of Participation

This certificate is presented to
Zalzala Mahdi

**For participating and presenting the
paper titled:**

**Hyperparameter Optimization for Deepfake
Detection Improving CNN and Transformer
Performance Using Bayesian Search**

A handwritten signature in blue ink, appearing to read "Ah".

General Chair
Ahmed Abdelgawad, PhD