



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

# CERTIFICATE of Participation

**This certificate is presented to**

**I. Can Dikmen**

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

**Neuromorphic Circuits with Spiking Astrocytes for  
Increased Energy Efficiency, Fault Tolerance, and  
Memory Capacitance**

A handwritten signature in blue ink, appearing to be "AA".

**General Chair**  
**Ahmed Abdelgawad, PhD**