



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

CERTIFICATE of Participation

This certificate is presented to
Teoman Karadag

**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 "AK".

General Chair
Ahmed Abdelgawad, PhD