



IEEE 4th International Conference on Computing and Machine  
Intelligence  
April 05-06, 2025  
Central Michigan University

# CERTIFICATE of Participation

**This certificate is presented to**  
**Matthew Lo**

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

**The Honeybee Clustering Dimension (HCD) Model:  
Advancing Beekeeping and Pollination Strategies  
with Artificial Intelligence-Driven Analysis**

A handwritten signature in blue ink, appearing to read "Ah", located below the title of the paper.

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