



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

# CERTIFICATE

## of Participation

**This certificate is presented to**  
**Terry Xie**

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

**Predicting Cardiovascular Disease Risk Through  
Machine Learning Analysis of Gut Microbiota  
Metabolite Flux Modeling with Flux-Balance  
Analysis**

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

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