



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

CERTIFICATE

of Participation

This certificate is presented to
Laith Jumma

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

**Investigation of various modulation techniques for
optical systems concerning different channel spacing
values**

A handwritten signature in blue ink, appearing to be "Ah", located below the text of the certificate.

General Chair
Ahmed Abdelgawad, PhD