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# CERTIFICATE OF PARTICIPATION

This certifies that

**Zakariya Yahya Algamal**

has participated and presented a paper entitled:

**Improving meta-heuristic algorithms for feature selection in multiclass classification**

at the **3<sup>rd</sup> International Conference on Advanced Engineering,  
Technology, and Applications**, held at the **University of  
Catania, Italy** on May 24-25, 2024.

**Dr. Alessandro Ortis**  
General Chair