

# CERTIFICATE OF RECOGNITION



IEEE  
Colombian  
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Conference

## BEST PAPER AWARD

presented to

**Luis Antonio Orbegoso Moreno, Edgar David Valverde Ramírez  
and Wellington Isaac Paredes Paulini**

Paper Title: **Direct calculation of the jacobian matrix: Leveraging Dual Numbers  
in Robot Forward Kinematics**

In the **1<sup>st</sup> IEEE Colombian Caribbean Conference - C3**,  
Barranquilla, Colombia, November 23-25, 2023.

## Track: ROBOTICS AND AUTOMATION SYSTEMS

Your dedication and expertise enriched our conference, promoting scholarly achievement.

*Paul Sanmartin H.*

Paul Sanmartin  
IEEE Colombian Caribbean Section Chair

*César Viloria N.*

César Viloria Núñez  
IEEE C3 General Chair

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Ingrid Oliveros Pantoja  
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