

# Table of Contents

## Preface

## Chapter 1: Measurements, Sensing and Monitoring

<b>Convolutional Neural Network for the Detection of Cocoa Maturity with an Approach for the Analysis of Images Captured at Different Distances</b> J.A.M. Rivera and A.M. Reyes-Duke	3
<b>Low Cost CO2 Sensor Prototype with IoT</b> E.A. Galindo Talhami, O. Aguiluz and M. Martínez-Rangel	9
<b>Development of a Web-Based Diagnostic Tool Using Acoustic Testing and Computer Vision</b> E.E. Cardona, A.A. Rodríguez Zepeda and A.M. Carrasco Bardales	21
<b>Synaptic Weights in a Neuromemristive Radioisotope Classifier</b> J.I. Canales-Verdial	37

## Chapter 2: Robotics

<b>Gesture-Based Control of an OMRON Viper 650 Robot</b> G.A. Alvarado García and F.E. Núñez Rodríguez	49
<b>The Use of the Internet of Things in Robotics (IoTR)</b> I.A. Magomedov, M.M. Matygov and U. Mochiev	61
<b>Design and Development of a Soft Pneumatic Gripper for Precise Grasping of Fragile Objects</b> A.A. Kattan Urrutia and A.M. Carrasco Bardales	69

## Chapter 3: Engineering Management

<b>Teaching Entrepreneurship in Civil Engineering and Architecture: Self-Diagnosis of Competencies in University Professors</b> V.A. Ochoa, H. Osorto and A.S. Rodriguez	85
<b>Evaluation of Neural Network and Logit Models for Classification of Default in Banking Loans</b> W.J. López Flores	97
<b>Analysis of Variation in Coffee Cupping Tasting in Different Environments</b> J.C. Guerra, L. Guardiola, J. Alvarado and M.E. Perdomo	109
<b>Coastal Fouling Impact in Solar Modules Efficiency in the Atlantic Region of Honduras</b> D.L. Terreros-Martínez and A.M. Reyes-Duke	121