Simple Harmonic Motion: First project from Digital Images Processing Course

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***Abstract*——**

***Index Terms*—Digital images processing, Python, OpenCV library, Simple Harmonic Motion**

I. Introduction

The oscillations of a system in which the net force can be described by Hooke's law are of special importance, because they are very common. They are also the simplest oscillatory systems. Simple Harmonic Motion (SHM) is the name given to oscillatory motion for a system where the net force can be described by Hooke's law, and such a system is called a simple harmonic oscillator. If the net force can be described by Hooke's law and there is no damping (by friction or other non-conservative forces), then a simple harmonic oscillator will oscillate with equal displacement on either side of the equilibrium positions [1].

Introducción a la prueba ....

II. Description

Descripcion detallado del procedimiento

In order to probe it, we create a simulate situation using a home made experiment, usin a ball we create a video, the i recorded with my celephone camara and then I using this video in a program designed to process all the imagens an crear a programn

III. Result

Resultados obtenidos y graficas generadas por el programa

1) Graficas posición vs tiempo: Definicion grafica

Métricas SVM	
Recall (S)	89.3%
Especificidad	90.0%
Precisión	89.2%
Accuracy	89.2%
F1-score	89.1%

Ejemplo imagenes

IV. Analysis

Analisis de resultados de todas las graficas obtenidas

V. Conclusions

Conclusiones de los hallazgos con graficas ycomprobación de MAS

References

[1] U. of Iowa Pressbooks, "Simple Harmonic Motion: A Special Periodic Motion."