UTEC

Internet of Things

Smart cities

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2021-II

Overview

Introduction
- About Me
- Objectives
- Motivation

Smarth Cities
- Definition
- Categories

Activities
- Quizziz

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- Research fields:
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  - Image processing.
  - Bioinformatics.

About Me

- MSc. Vicente Machaca Arceda.
- Last year PhD. student in *Computer Science*.
- Research fields:
  - Machine learning.
  - Image processing.
  - Bioinformatics.
- Experience in development of IoT products like: violence detection, car crash detection, drowsiness detection, etc.
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- Investigador Renacyt MR-1.

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Objectives

- Learn about the key concepts related to smart cities.
- Know real world projects about smart cities.

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Motivation
Better traffic flow

Figure: Traffic flow example.

Motivation
Safer cities

Figure: Safer cities.

Motivation
Safer cities

Figure: Violence detection. Demo: link.

Motivation
Smart healthcare

Figure: Smart healthcare.

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Definition

What is a smart city?

Definition

How the IoT is related to smart cities?

Definition

Smarth city is a city that combines advances in the **IoT**, **Big Data, Social Networks**, and **Cloud Computing** technologies in areas of public interest: **Health**, **public safety** and **mobility** [1].

Definition

Smarth city is a city that combines advances in the **IoT**, **Big Data, Social Networks**, and **Cloud Computing** technologies in areas of public interest: **Health**, **public safety** and **mobility** [1].

Smarth city is a city that achieves its targets, such as **security**, **mobility**, **scalability**, and **deployment**. [2].

More information: link

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Smart economy

Figure: E-Commerce.

Smart governance

Figure: Vipa.

Smart mobility

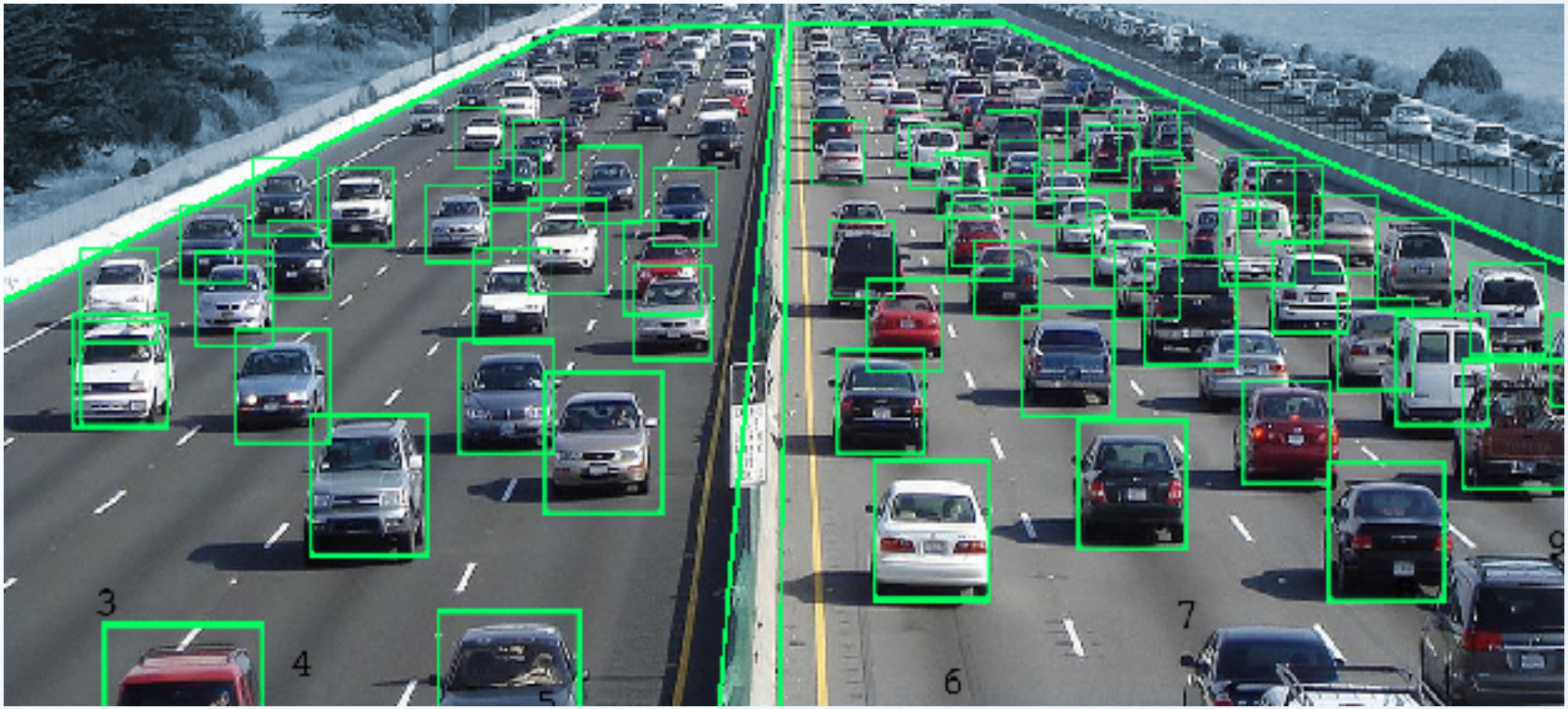

Figure: Traffic monitoring using IA.

Smart mobility
Fast car crash detection

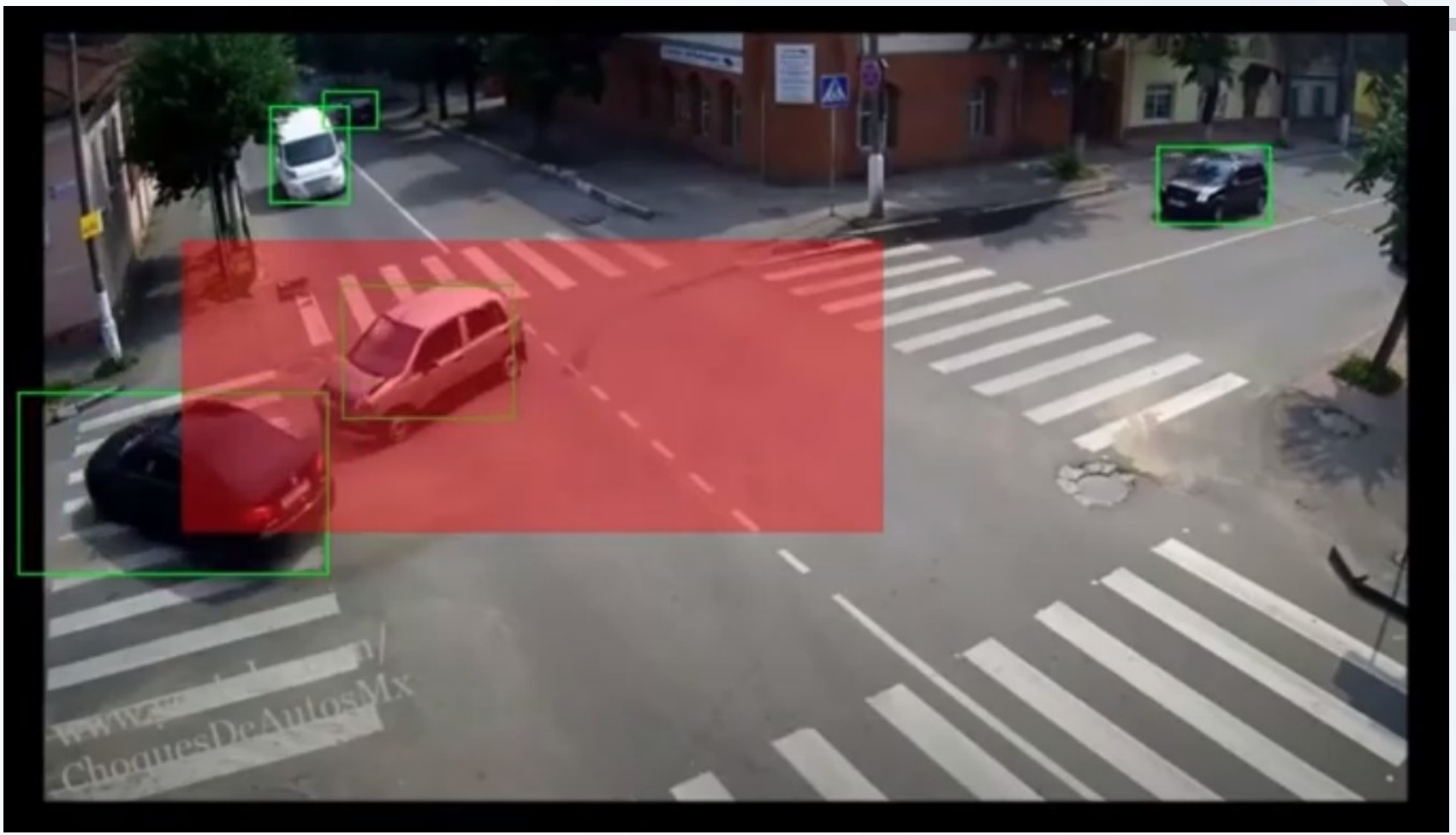

Figure: Fast car crash detection. Demo: Enlace.

Smart mobility
Drowsiness detection

Smart environment

Figure: Smart environment.

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link

References I

[1] A. d. M. Del Esposte, E. F. Santana, L. Kanashiro, F. M. Costa, K. R. Braghetto, N. Lago, and F. Kon, “Design and evaluation of a scalable smart city software platform with large-scale simulations,” *Future Generation Computer Systems*, vol. 93, pp. 427–441, 2019.

[2] A. Elsaeidy, K. S. Munasinghe, D. Sharma, and A. Jamalipour, “Intrusion detection in smart cities using restricted boltzmann machines,” *Journal of Network and Computer Applications*, vol. 135, pp. 76–83, 2019.