

UTEC

Internet of Things

Smart cities

MSc. Vicente Machaca Arceda

2021-II

Introduction

- About Me
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- Motivation

Smarth Cities

- Definition
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- ▶ MSc. Vicente Machaca Arceda.

About Me



- ▶ MSc. Vicente Machaca Arceda.
- ▶ Last year PhD. student in *Computer Science*.

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- ▶ Research fields:
 - ▶ Machine learning.
 - ▶ Image processing.
 - ▶ Bioinformatics.

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

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Figure: Traffic flow example.



Figure: Safer cities.



Figure: Violence detection. Demo: [link](#).

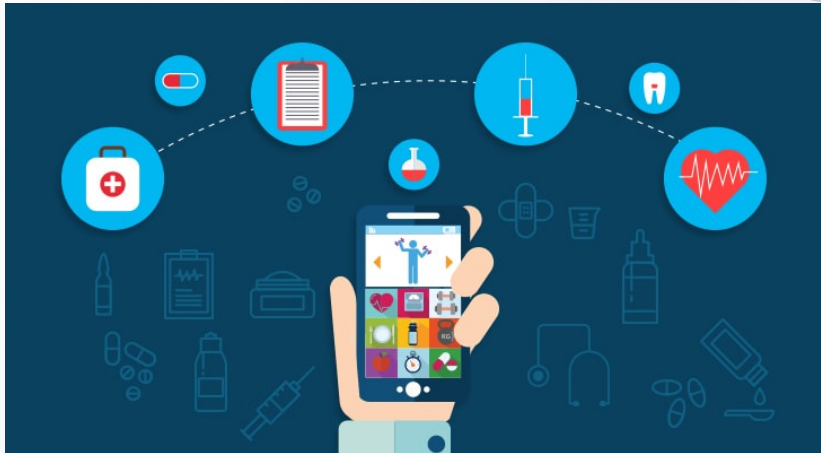


Figure: Smart healthcare.

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What is a smart city?

How the IoT is related to smart cities?

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].

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

More information: [link](#)

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Figure: E-Commerce.



Figure: Vipa.

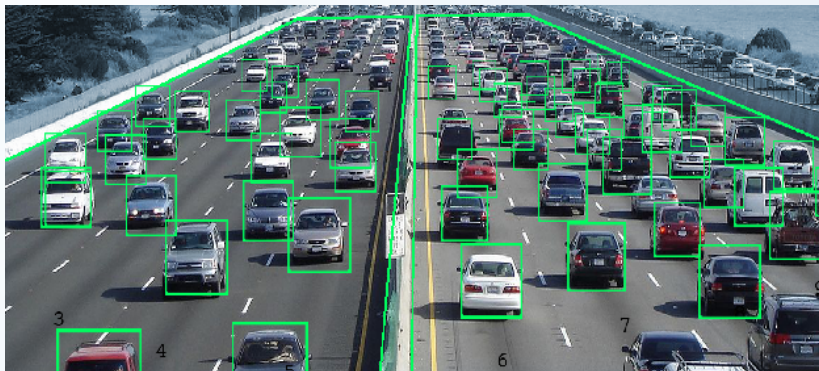


Figure: Traffic monitoring using IA.

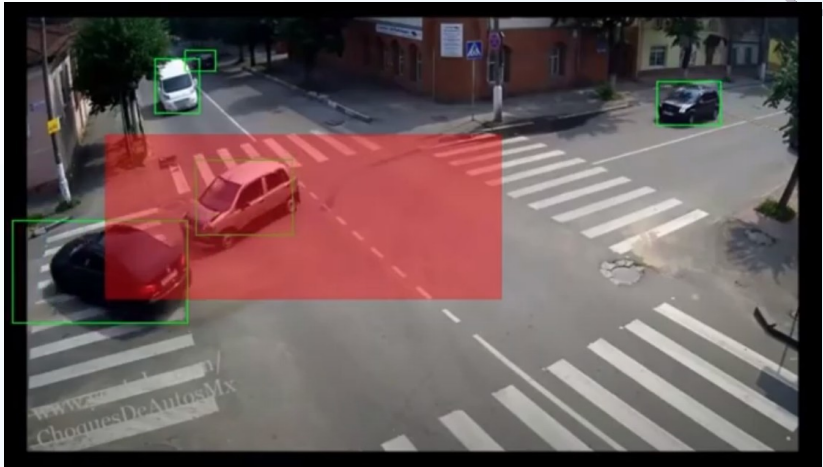


Figure: Fast car crash detection. Demo: [Enlace](#).





Figure: Smart environment.

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link

- [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. Elsaedy, 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.

