

# MOBILE DEVICE FOR REAL-TIME LICENSE PLATE RECOGNITION WITHOUT INTERNET CONNECTION



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## ABSTRACT

The **Lucentia** research group at the University of Alicante has developed a device to be installed in a vehicle and **recognize Persian license plates in motion** by means of image processing. The novelty lies in the ability to perform this process completely autonomously in **real time**, with **minimal power consumption** and **without being connected to the Internet**.

The group is looking for companies interested in acquiring this technology for commercial exploitation or in its development to adapt it to license plates with Western characters.

## TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

### MAIN ADVANTAGES OF THE TECHNOLOGY

The main advantages of this technology are as follows:

- The device is able to perform recognition with a **variable angle**, both horizontally and vertically.
- The developed method allows efficient recognition of license plates even in **adverse lighting conditions** such as low illumination, dust and rain, foreign elements on the license plate or fog.
- The ability to select the license plate of interest, taking into account that several cars may appear in the same scene, allows **reducing the computation and storage cost**.
- **Efficiency level higher than 90%**.
- The method is specifically designed for license plates with **Persian characters** of great complexity due to their typographic elements, in addition to recognizing **special symbols**, such as those intended to identify people with reduced mobility, special vehicles or cabs. Additionally, the invention also allows handling different **types of colors**, which are used for protocol, public or private vehicles.
- The technology would be **easily adaptable** to other types of license plates with **Western** or other **characters**.

### INNOVATIVE ASPECTS

- Persian character-based license plate detection from a mobile device that operates autonomously **in real time**.
- **Without** the need to be connected to a **communications network or the Internet**.
- With **low power consumption**, making it suitable for use in mobile devices.
- The recognition method is based on several optimizations in the **artificial intelligence** models it uses, to take advantage of the device's hardware accelerators, i.e. its processor and graphics unit.

## MARKET APPLICATIONS

It is mainly aimed at the **Transport** sector, although it can be applied to any sector that requires license plate recognition to control the entry or

exit of goods or vehicles.

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COLLABORATION SOUGHT

We are looking for companies interested in acquiring this technology for **commercial exploitation** through patent license agreements or for the **development of the technology** and its adaptation to license plates in other countries.

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