

URBAN BIG DATA - STUDY OF URBAN AND ECONOMIC PHENOMENA BY MEANS OF GEOLOCALISED DATA FROM SOCIAL NETWORKS



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ABSTRACT

The **Urban and Territorial Planning in the Coastal Space** research group has developed a web application that allows obtaining, downloading and filtering geolocalised data from social networks useful for identifying urban and economic phenomena. In addition, it has developed techniques and methods that make it possible to use data from these sources to inform decision-making processes in the city, thus incorporating valuable information that citizens have shared first-hand and making it possible to identify their needs and preferences. This invention overcomes the drawbacks of currently available information by providing data on the following issues:

- *Urban economic activity*: supply and demand of economic activities in the urban environment.
- *Citizen preferences*: preferred and used spaces and activities.
- *Citizen opinion*: assessment of economic and urban activities.
- *Presence*: spatial-temporal analysis (places and timings) of citizen presence.

The group is looking for companies or public/private entities interested in using this innovative tool in their analyses and urban or economic projects that will facilitate their decision-making.

TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

MAIN ADVANTAGES OF THE TECHNOLOGY

The main advantages of this technology are the following:

- The data will be completely anonymous.
- This data provides geolocalised information: complete, accurate and up-to-date.
- The information is adapted to the needs of the entity or company.
- It allows agile, flexible and reliable decision-making.
- Allows monitoring of urban problems and/or policies.
- Optimisation of the information to save time and cost in the analysis.
- Creation of detailed reports.
- Adaptation of graphics for web environments.

INNOVATIVE ASPECTS

The present technology systematises the collection of specific data from a series of social networks, relying on filtering and analysis methods that generate a series of products that do not exist on the market, as follows:

1) Economic activities

The identification of the supply of different economic activities, both in terms of their location and the sector or category to which they belong,

as well as the citizen demand for these economic activities. Among other aspects: What is the supply and demand for economic and urban activities in a city, including by sector? (*see figure 2*), what is the concentration of certain activities, both in urban axes and in different clusters, what discontinuities in commercial activity are identified, and what is the best location for a certain business?

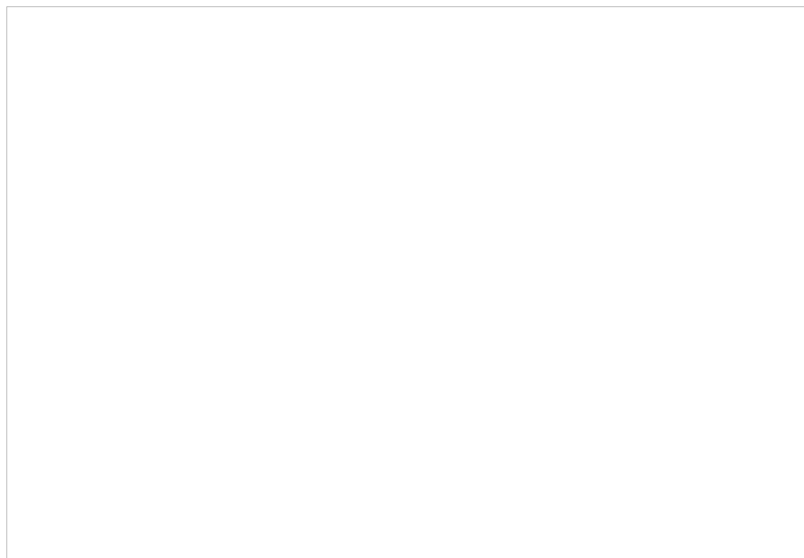


Figure 2: View of the supply of hotels and other tourist accommodation in the city of Alicante

2) Presence

The identification of the spatio-temporal presence of citizens according to their concentration in urban areas by time slots and days of the week. Thus, we identify where people are at night, during the day, during the week, during the weekend, which places and commercial activities are most frequented, or which urban public spaces are most frequented.

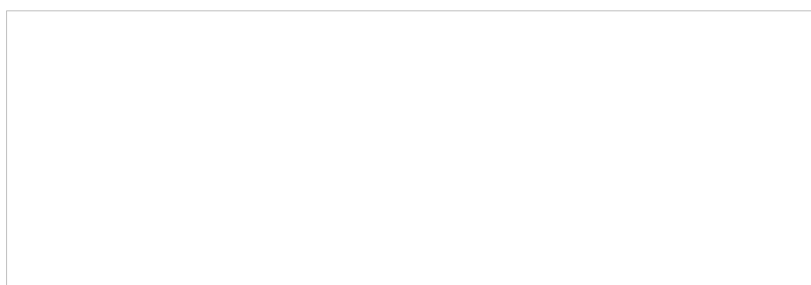


Figure 3: View of the distribution in days and hours of tweets sent in Alicante

3) Preference

Citizens' preferences for particular urban settings in both public and private spaces allow for the identification of What urban spaces and activities do citizens prefer? or What activities do they carry out in preferred urban spaces?

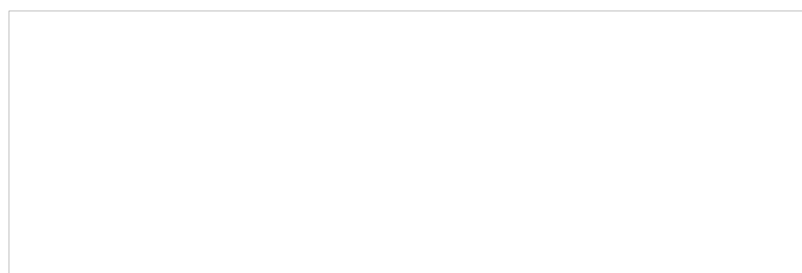


Figure 4: Presence by activity and time in the city of Valencia

4) Opinions

The opinions that citizens express, through the networks, allow us to know their positions on different urban areas or on certain issues on which opinions are exchanged: What do citizens think about urban spaces and economic activities in the city? or What do citizens think about a certain urban policy or specific issue?

All these analyses make it possible to carry out urban planning diagnoses and proposals for intervention in the city, taking into account the urban reality both from the point of view of economic supply and from the point of view of citizens' preferences in the city.

MARKET APPLICATIONS

The main sectors of application would be **public administrations**, especially at local level, **companies in the commercial, advertising or tourism sector**, or any other type of entity that needs to know in depth the behaviour of citizens or the current economic supply and demand in a specific urban space.

COLLABORATION SOUGHT

The research group is looking for companies or public/private entities interested in using this innovative tool in their analysis and urban or economic projects that will facilitate their decision making.
