



I2 A Proposal for a Scientific Forensic Model Applied to Missing Persons Searches

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Learning Overview: The goal of this presentation is the proposal of a model to search for missing persons using forensic science methodologies.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing the effectiveness of research by increasing the chances of finding missing persons in a short time while they are still alive.

The ability of the scientific community to increase the effectiveness of research will improve the chances of finding missing persons both alive and in a shorter time frame.

In Italy, from January 1, 1974, to June 30, 2020, there were 250,008 missing person reports; 188,182 people were found, but 61,826 are still missing. Of those reported missing, 51.71% are of Italian nationality and 48.29% are foreigners. Just within the first half of 2020, there were 4,833 missing person reports; 3,052 people were found and 1,781 people are still missing.

Cell phones, social networks, and even car keys with transponders are all systems that allow a precise geolocation of a person. There are also applications that track cell phones that are off or without a signal, using only three words (such as www.what3words.com), through geographic profiling (or predictive spatial analysis), or, finally, through the analysis of satellite images that scan daily and allow “the invisible” to be seen through multispectral bands. Parallely, another tool that was created for other purposes is under experimentation in Italy; it is the “psychological profile” reconstruction of the missing person. This technique uses the psychological mechanism of the mind focused through mnemotechnics and cognitive interview; obtaining much useful research information and details from family members and people who are significant to the person.

In particular, it is very useful to have information about the places beloved by the missing person, those she/he has frequented, and those she/he would have liked to go to. There is also a chance that this could be derived from shared memories that can link that person to those places. It is useful to know the person’s social network and where these contacts are located.

If it were possible to have a joint effort from both the psychological and geographic teams in a timely manner, it would be possible to understand and identify through a predictive analysis (such as that of the film *Minority Report* with Tom Cruise) the area where the person disappeared.

Some case studies followed by a Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis will better explain the application of this model.

Forensic Model, Missing Persons, Searches