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MIST: Missing Person Intelligence Synthesis Toolkit

Missing person cases have been on the rise in the United States for the past twenty years. Currently, approximately 4,000 people go missing every day. Of those 4,000 cases, over 500 missing person cases go unsolved per day. Furthermore, many of these missing person cases are associated with human trafficking. By utilizing software tools, resources can be maximized as searching for missing persons becomes more efficient. Artificial intelligence concepts, such as geospatial abduction problem (GAP), can enable better and more efficient searches for missing persons. However, current technologies and approaches must be modified to maximize the impact for applications related to missing persons.

Researchers at Arizona State University have recently introduced the Missing Person Intelligence Synthesis Toolkit (MIST), which leverages a data-driven variant of the geospatial abduction problem (GAP). MIST aggregates various pieces of information to identify geographic areas in which the missing person is likely to be located. Then, MIST assigns a probability for each geographic location of interest – thereby allowing the prioritization of search teams. This approach has been tested with real-world data, and found it reduced the search areas of 24 cases by 31 square miles. This technology is also a vital step toward an all-encompassing methodology for locating missing persons who are victims of human trafficking.

Potential Applications

- Locating missing persons
- Tracking and stopping human trafficking
- Solving cold cases
- Law enforcement software tool

Benefits and Advantages

- Improves Public Safety – Uses optimization and abductive inference to increase the likelihood of finding missing persons and victims of human trafficking.
- Increases Efficiency –
  - Reduces the search area, thus reducing search time and costs.
  - Prioritizes search locations by determining the probability of locations.
- Proven Results – When tested with real-world data, MIST lead to a reduction of 31 square miles over 24 cases.

For more information about the inventor(s) and their research, please see

[Dr. Paulo Shakarian's directory webpage](#)