The CEASEFIRE project and the Center for Research & Technology-Hellas (CERTH) organize:

Workshop in the context of IEEE BigData 2023 (15-18 December, 2023)

Over the past years, with the rise of the Internet and social media, crime, organized and otherwise, has utilized it to shift from traditional methods to more digital. This poses several threats to Law Enforcement Agencies (LEAs), having to adapt and utilize new methods and approaches to detect, prevent and apprehend criminals, whether it's about online (cyber) crimes or utilization of online tools to assist them in offline activities (e.g., deep fakes for passport forgeries).

The proposed workshop aims at bringing together researchers from academia, industry, government, and LEAs to present the state of the art along with novel ideas and discuss the latest advances in the area of the application of Big Data for crime and terrorism activities detection and prevention as well as border checks/management. The workshop is expected to cover the whole range of theoretical and practical aspects, related to the application Big Data technologies and methods in the fight against crime and terrorism.

IEEE BigData is a premier international forum with a specific focus on technologies related to the use, storing, processing, and validating large collections of data. In the current information age, Big Data can be utilized in the fight against crime and terrorism by using machine-learning and other methods to process the data and extract suspicious activities.

Finally, the workshop will be backed up by the relevant Horizon Europe-funded project **Ceasefire** (GA. 101073876) and will be disseminated by all consortium members.

Ceasefire targets the development of a highly innovative, holistic, multi-disciplinary, high-tech and versatile approach for significantly increasing/broadening the operational capabilities of EU Law Enforcement Agencies (LEAs) in their struggle to detect, analyze and track cross-border illicit firearms trafficking related activities. In particular, Ceasefire efforts will concentrate on the following major driving axes: a) The development of advanced Artificial

Intelligence (AI) technologies for significantly facilitating the everyday work of the involved practitioners, and b) The establishment of fully-operational National Focal Points (NFPs), by targeting to alleviate from current organizational, operational, cooperation, legal, cross-jurisdictional, trans-border and information exchange challenges. The former corresponds to a wide set of AI-enabled tools, including solutions for cyber patrolling, Web data gathering, on-the-spot detection of firearms, advanced Big Data analytics, cryptocurrency analysis, large-scale information fusion, visual analytics and firearms-related intelligence collection. On the other hand, particular attention will be given towards defining models, protocols and procedures for making NFPs fully functional, complemented by activities for mapping the various legal frameworks (within different countries) and procedures (within different agencies) for harmonizing investigations, cooperation, lawful evidence collection and forensics analysis. The development of efficient information sharing mechanisms among LEA (police, border guard, customs), judicial and forensics authorities will further reinforce the system capabilities. Moreover, the tasks of Ceasefire will complement the objectives and activities of the EU Policy Cycle (EMPACT) – Firearms, while continuous guidance from the European Firearms Experts (EFE) group is foreseen.

Workshop Topics

- Big Data Applications
- Machine Learning models
- Virtual Assistants
- Machine vision
- Natural Language processing
- Audio analysis
- Multimedia analysis
- Neural Networks
- Forgery detection
- Internet of Things (IoT) applications
- Anomaly detection
- Clustering
- Privacy and Security in Big Data
- Data Mining techniques
- Search based applications on Big Data
- Sampling on Big Data
- Predictive Analytics
- Visual Analytics

Important Dates

- **Oct 10, 2023:** Due date for full workshop papers submission (Deadline Extension)
- **Nov 1, 2023:** Notification of paper acceptance to authors
- **Nov 20, 2023:** Camera-ready of accepted papers
- **Dec 15-18, 2023:** Final Workshop

Workshop Organizers

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Details at:

https://bda4fct.iti.gr/

https://ceasefire-project.eu/