



Newsletter n.5

Dear Reader,

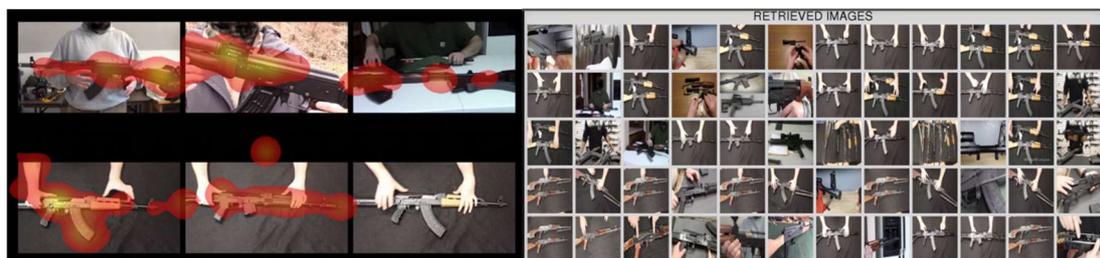
Taking into account the emergency due to the COVID-19 virus, the events planned in March, April and May are postponed. But ANITA does not stop!

While waiting for things to get better, we can use other tools to continue the work of dissemination and sharing, including the Newsletter. For this reason, I share contributions written by CERTH and Expert System, which concern two very important technologies at ANITA: image and text analysis.

What I see is what I want.

Deep Learning (DL) algorithms are being developed to detect and classify objects, events and higher-level concepts. These detections can, subsequently, be used to search in a large database for similar content (a.k.a. image retrieval). Despite the good results that this method offers, it poses a number of important restrictions. What if I want to search for an object/concept that the system is not trained for? What if I want to increase the granularity of the results? Re-training the system to accommodate these needs, requires intense effort, including human annotation (as mentioned in ANITA newsletter No3).

ANITA is developing a novel image-retrieval application that utilizes the human gaze for identifying the areas of interest for the user. These areas are, then, used as a query for retrieving similar images. As the user continues to examine the results, new areas of interest are identified, building up a complex query in an iterative way. The retrieval results are updated according to the users' interest, as this is encapsulated in their gaze, returning the most relevant results more efficiently. Further research is conducted to reveal and exploit the hidden knowledge of implicit human feedback for designing novel DL architectures.



(a)

(b)

Example of a gaze heatmap captured by a user (a) and similar images retrieved (b).



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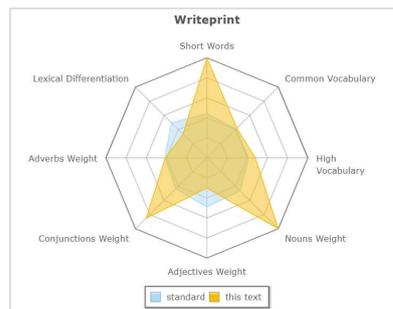


Writeprint as Fingerprint

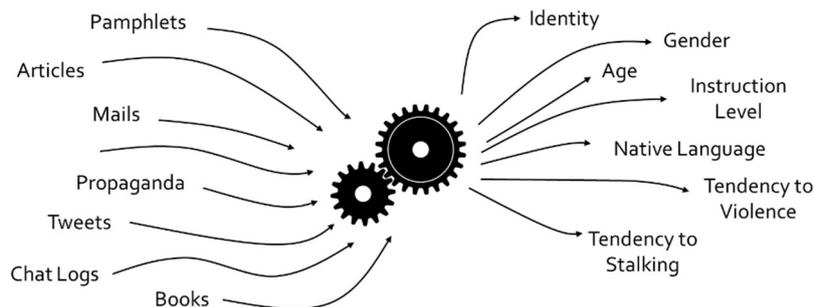
When investigators enter the scene of a crime, they are careful not to alter possible fingerprints which are very important to identify the killer, but what happens when a letter or written note is found?

They often limit themselves to calligraphy analysis. Very few people know that through combined techniques of linguistics and machine learning, it is possible to recognize the “fingerprints” of the author’s writing style.

Combining the measurements of the particular use of Adjectives, Adverbs, Complex Vocabulary, Uncommon Words and more than 200 stylometric features automatically extracted by Cogito, it is possible to represent a sort of stylistic identikit of the writer, what we call the "DNA of the author": it distinguishes the author in question from anyone else (this task is called "Identification of the author").



It is also useful to know that, taking into account the key traits of a text in terms of vocabulary use and writing style, Stylometric Analysis can help identify the author or some information related to his or her profile, such as gender, age and more.





COMMUNICATION AND DISSEMINATION EVENTS

Security & Policing Conference - Farnborough (UK)

ANITA project has participated to the event hold in UK. Project activities and outcomes have been presented by Academy of Criminalistic and Police Studies, Home Office CAST and Dutch Institute for Technology, Safety and Security, during the 2 days.

Many end-users have visited the booth to discuss the more details about the functionalities offered by the ANITA solutions.

3-5 March 2020

URL: <https://www.securityandpolicing.co.uk/>



An updated list with all dissemination activities is available here: <https://www.anita-project.eu/events.html>

UPCOMING EVENTS

The planned dissemination and training events are suspended. The new dates will be communicated as soon as possible.

Keep up to date! To subscribe the newsletter or to receive more information please go to the project:

website <https://www.anita-project.eu/>

mail info@anita-project.eu

Twitter @AnitaProject



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