Researchers develop new search tool to help fight child porn, catch cyber thieves

ANI – Thu 6 Jun, 2013 2:49 PM IST

Montreal, June 6 (ANI): A new search tool developed by researchers in Canada can now help crime investigators extract hidden knowledge from a large volume of text and thereby catch cyber thieves.

With computing devices storing terrabytes of personal data, it can take months before enough evidence can be cobbled together from reams of documents, emails, chat logs and text messages.

But now a new technique has been developed by researchers at Concordia University, who have slashed the data-crunching time. What once took months now takes minutes.

Gaby Dagher and Benjamin Fung, researchers with the Concordia Institute for Information Systems Engineering, will soon publish their findings in Data and Knowledge Engineering.

Law enforcement officers are already putting this research to work through Concordia's partnership with Canada's National Cyber-Forensics and Training Alliance, in which law enforcement organizations, private companies, and academic institutions work together to share information to stop emerging cyber threats and mitigate existing ones.

The researchers' new methods automatically identify the criminal topics discussed in the textual conversation, show which participants are most active with respect to the identified criminal topics, and then provide a visualization of the social networks among the participants.

Dagher, who is a PhD candidate supervised by Fung, explained that the huge increase in cybercrimes over the past decade boosted demand for special forensic tools that let investigators look for evidence on a suspect's computer by analyzing stored text.

He added that their new technique allows an investigator to cluster documents by producing overlapping groups, each corresponding to a specific subject defined by the investigator.

Fung said that, "out of all the types of available data in cybercrime investigation, text data is the most common medium used by scammers, identity thieves and child exploitation criminals. But this type of data is also the most challenging to analyze. It's really hard make a software program automatically interpret the underlying meaning of the text."

The researchers have also developed a new search engine to help investigators identify the relevant documents from a large volume of text.

This new method of quickly sifting through huge amounts of text to zero in on the evidence could soon be used by law enforcement agencies around the world, meaning future cybercriminals can go to trial much more quickly, saving time for the police - as well as money for tax-payers. (ANI)