

From: [redacted] (CTD) (FBI)  
Sent: Wednesday, October 03, 2007 9:46 AM  
To: [redacted] (DI) (FBI); [redacted] (OS) (FBI);  
[redacted] (OS) (FBI); [redacted] (CTD) (FBI);  
[redacted] (CyD) (FBI); [redacted] (CTD) (FBI);  
[redacted] (CTD) (FBI); [redacted] (CTD) (FBI);  
[redacted] (CTD) (FBI); [redacted] (CTD) (FBI);  
Cc: [redacted] (CTD) (FBI); [redacted] (CTD) (FBI); [redacted]  
[redacted] (CTD) (FBI)  
Subject: FW: University of Arizona Dark Web Project

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b7C

Attachments: Scientists Use the \_Dark Web\_ to Snag Extremists and Terrorists Online - US National Science Foundation (NSF).pdf

**SENSITIVE BUT UNCLASSIFIED**  
**NON-RECORD**

To All,

The article attached in the e-mail thread reflects computer research being conducted by the University of Arizona (U of A) Artificial Intelligence Lab re the use of sophisticated software tools to exploit large amounts of data via spidering to identify authorship, link analysis, content and semantic analysis, social networking patterns, etc. U of A is one of the top academic facilities in the U.S. conducting this type of research. The research project is collectively called "Dark Web".

[redacted]

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I would like to coordinate a meeting in which the U of A briefs the FBI on the Dark Web project to see if any of their analytical tools might be applicable in your respective operational analysis and exploitation of data, including web forums [redacted]

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The list of invitees is not restricted. Please feel free to pass the word. Some of you have already contacted me and shown interest in hearing more about possible FBI applications of the Dark Web tools. The U of A and the Dark Web project are receiving national attention via the attached article.

Dr. Chen is the Director of the U of A Artificial Intelligence Lab and in charge of the Dark Web project. He is interested in giving a 2 hour briefing at FBIHQ on Dark Web applications and has advised that he is available on 10/25/2007. If that date is not good, I am sure a later date could be arranged.

Please feel free to contact me for additional information at [redacted]

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I would appreciate any feedback asap so I can advise Dr. Chen re arranging a meeting with the FBI.

Thanks,

[redacted]

-----Original Message-----

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SOC NETWORK-1

From: [redacted] (CTD) (FBI)  
Sent: Thursday, September 13, 2007 4:35 PM  
To: [redacted] (OS) (FBI); [redacted] (OGC) (FBI)  
Cc: [redacted] (CTD) (FBI)  
Subject: OA in the news

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**NON-RECORD**

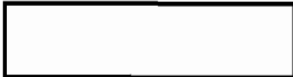
Hello,

[redacted] wanted me to pass along the attached document that has made the recent news amongst the academic circle, and in the Bureau as well (CyD and CITT were recently apprised of the article).



Scientists Use the  
\_Dark Web\_t...

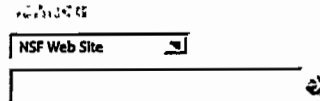
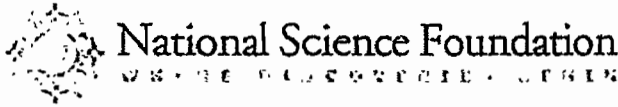
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**FBIHQ, Zurich 1943**  
***It's great to be a Florida Gator!***

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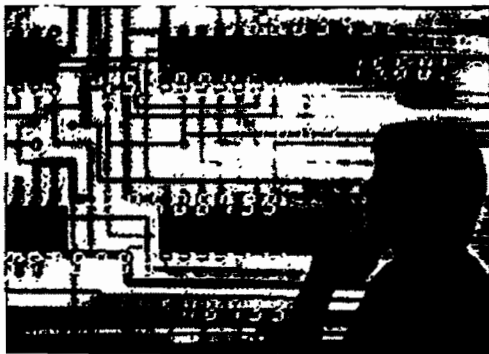
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Press Release 07-118

## Scientists Use the "Dark Web" to Snag Extremists and Terrorists Online

Team from the University of Arizona identifies and tracks terrorists on the Web



The Dark Web project team catalogues and studies places online where terrorists operate.

[Credit and Larger Version](#)

September 10, 2007

Terrorists and extremists have set up shop on the Internet, using it to recruit new members, spread propaganda and plan attacks across the world. The size and scope of these dark corners of the Web are vast and disturbing. But in a non-descript building in Tucson, a team of computational scientists are using the cutting-edge technology and novel new approaches to track their moves online, providing an invaluable tool in the global war on terror.

Funded by the National Science Foundation and other federal agencies, Hsinchun Chen and his Artificial Intelligence Lab at the University of Arizona have created the Dark Web project, which aims to systematically collect and analyze *all* terrorist-generated content on the Web.

This is no small undertaking. The speed, ubiquity, and potential anonymity of Internet media--email, web sites, and Internet forums--make them ideal communication channels for militant groups and terrorist organizations. As a result, terrorists groups and their followers have created a vast presence on the Internet. A recent report estimates that there are more than 5,000 Web sites created and maintained by known international terrorist groups, including Al-Qaeda, the Iraqi insurgencies, and many home-grown terrorist cells in Europe. Many of these sites are produced in multiple languages and can be hidden within innocuous-looking Web sites.

Because of its vital role in coordinating terror activities, analyzing Web content has become increasingly important to the intelligence agencies and research communities that monitor these groups, yet the sheer amount of material to be analyzed is so great that it can quickly overwhelm traditional methods of monitoring and surveillance.

This is where the Dark Web project comes in. Using advanced techniques such as Web spidering, link analysis, content analysis, authorship analysis, sentiment analysis and multimedia analysis, Chen and his team can find, catalogue and analyze extremist activities online. According to Chen, scenarios involving vast amounts of information and data points are ideal challenges for computational scientists, who use the power of advanced computers and applications to find patterns and connections where humans can not.

One of the tools developed by Dark Web is a technique called Writeprint, which automatically extracts thousands of multilingual, structural, and semantic features to determine who is creating 'anonymous' content online. Writeprint can look at a posting on an online bulletin board, for example, and compare it with writings found elsewhere on the Internet. By analyzing these certain features, it can determine with more than 95 percent accuracy if the author has produced other content in the past. The system can then alert analysts when the same author produces new content, as well as where on the Internet the content is being copied, linked to or discussed.

Dark Web also uses complex tracking software called Web spiders to search discussion threads and other content to find the corners of the Internet where terrorist activities are taking place. But according to Chen, sometimes the terrorists fight back.

"They can put booby-traps in their Web forums," Chen explains, "and the spider can bring back viruses to our machines." This online cat-and-mouse game means Dark Web must be constantly vigilant against these and other counter-measures deployed by the terrorists.

Despite the risks, Dark Web is producing tangible results in the global war on terror. The project team recently completed a study of online stories and videos designed to help train terrorists in how to build improvised explosive devices (IEDs). Understanding what information is being spread about IED methods and where in the world it is being downloaded can improve countermeasures that are developed to thwart them.

Dark Web is also a major research testbed for understanding the propaganda, ideology, communication, fundraising, command and control, and recruitment and training of terrorist groups. The Dark Web team has used the tools at their disposal to explore the content and impact of materials relating to "virtual imams" on the Internet, as well as terrorist training and weapons manuals.

Dark Web's capabilities are also being used to study the online presence of extremist groups and other social movement organizations. Chen sees applications for this Web mining approach for other academic fields.

"What we are doing is using this to study societal change," Chen says. "Evidence of this change is appearing online, and computational science can help other disciplines better understand this change."

-NSF-

#### Media Contacts

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#### Related Websites

Dark Web Project Web Site: <http://ai.arizona.edu/research/terror/index.htm>

NSF's Division of Information & Intelligent Systems (IIS): <http://www.nsf.gov/div/index.jsp?div=IIS>

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