Center for Visualization and Data Analytics (CVADA)

A DHS Emeritus Center of Excellence*

CVADA creates enduring technologies to analyze large quantities of information in support of real-time decision making across the homeland security enterprise.

LAUNCH ➤ 2009
PARTNERS ➤ More than 40 university, private industry, and government partners
EXPERTISE ➤ Visualization and computer graphics, data analytics, engineering, computer science, geographic information systems, cognitive psychology, information technology, and emergency management

Feedback from Our Partners

“VALET [Visual Analytics Law Enforcement Toolkit] helped greatly in isolating the crimes inside the area in question and also provides a heat map to readily see busy areas. We are fortunate to have a good tool like this.”

Lieutenant Alan Yeager
Evansville Police Department, 2017

“We have been utilizing SMART [Social Media Analytics and Reporting Toolkit] since [the presidential] inauguration last year and it has become a standard part of our special event intel support package.”

LTJG Nicholas Phillips, U.S. Coast Guard
Sector Maryland - National Capital Region Intelligence, 2018

*DHS Emeritus Centers of Excellence no longer receive base grant funding. DHS and its operational components can access Emeritus Centers through DHS Basic Ordering Agreements (BOAs).
Impacts

Developing social media analytics tools for big data
Several DHS components have deployed the Social Media Analytics and Reporting Toolkit (SMART), a social media analytics tool that allows users to map and navigate data in real time by using key words, examining anomalies, and exploring geographic distribution of information. SMART has been used at many special events, such as the 2017 Presidential Inauguration. Davista Technologies is commercializing SMART, developed by CVADA at Purdue.

Deploying visual analytics for crime detection
The Visual Analytics Law Enforcement Toolkit (VALET), an interactive analysis interface for crime incidents, was deployed by CVADA at Purdue to several law enforcement agencies and commercialized by Davista. VALET depicts real-time events as well potential scenarios, enabling law enforcement agencies to interactively visualize and analyze their datasets in linked geospatial maps and time graphs.

Screening and Evacuation Tools Help Protect Stadium Fans from Terrorist & Natural Threats
Stadiums from almost every professional sports league are using patron screening and evacuation simulation tools developed by CVADA at Rutgers in partnership with Regal Decision Systems Inc. The tools enable public safety and emergency managers to select the screening and evacuation methods likely to work best at a particular venue.

Detecting false distress calls to prevent threats
The U.S. Coast Guard (USCG) receives more than 100 phony distress calls per year, which can be costly and endanger first responders, diverting manpower and equipment from critical missions. CVADA at Rutgers applied voice forensics to help USCG catch and prosecute these hoax callers.

For a complete list of partners and more information, please visit http://www.purdue.edu/discoverypark/vaccine/index.php or www.ccicada.org

For more information on DHS Centers of Excellence, please visit hsuniversityprograms.org