

National Visualization and Analytics Center™

PROVIDING INNOVATIVE SOLUTIONS FOR THE 21ST CENTURY

The National Visualization and Analytics Center at Pacific Northwest National Laboratory was established in 2004 by the U.S. Department of Homeland Security. NVAC provides leadership and coordination among the academic community, industry, national laboratories and government to create and deploy visual analytics technologies to help counter future terrorist attacks in the United States and around the globe.

NVAC provides strategic direction and scientific leadership with four core capabilities:

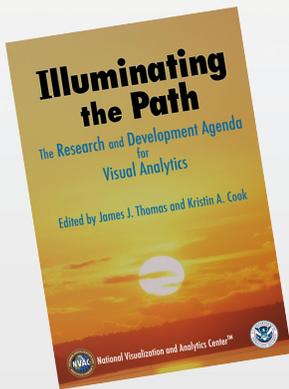
- ▶ Research and Development Leadership
- ▶ Technology Evaluation and Implementation
- ▶ Coordination and Integration
- ▶ Education.

VISUAL ANALYTICS

Visual analytics tools and techniques will become the 21st century's answer to information overload. In the fight against terrorism, analysts are bombarded with enormous volumes of data from a variety of sources, including documents, images, numbers, video and audio. Recognizing that humans have a keen ability to process visual information, researchers are creating visual analytics tools to help users analyze and interpret huge volumes of data.



The tools enable users to synthesize dynamic and often ambiguous data into assessments, ready for communication and action. These assessments are timely, defensible, and easily understood. Visual analytics facilitates high-quality human judgment and requires a limited investment of an analyst's time. NVAC has taken visual analytics to new heights, identifying opportunities for applying it to many industries and organizations, in addition to homeland security. NVAC's leadership and coordination of technology from laboratories, industries, government agencies and universities has the potential to benefit businesses such as healthcare, telecommunications, marketing and education.



Illuminating the Path, a Research and Development Agenda for visual analytics, was developed to define the directions and priorities for future research and development programs focused on visual analytics tools. This R&D Agenda provides a coordinated technical vision for government and industrial investments and ensures that a continued stream of technology and tools enter the hands of analysts, border personnel and emergency responders.

INNOVATIVE LEADERSHIP

DHS selected PNNL to lead NVAC based on the Laboratory's highly successful development of visualization technology and its broad talent base.

PNNL is internationally recognized for scientific leadership with a long history of high-impact contributions in information visualization and analysis for homeland security, intelligence and defense. PNNL researchers have worked alongside analysts to bring fundamentally new analytical capabilities into their working environment. NVAC continues this strong collaboration of talent and tools to provide exceptional advancements in visual analytics.

EDUCATION

NVAC is committed to preparing our next generation of scientists and

engineers in visual analytics to serve national needs in multiple agencies, roles and functions.

To achieve the goals of a sustained flow of advanced high-impact technologies and talents, Regional Visualization and Analytics Centers at key U.S. academic institutions have been established. The RVACs provide both research expertise and training and education programs, supplementing the knowledge centered within NVAC.

In addition to internships, NVAC hosts seminars and summer camps. Summer camps are two-week hands-on educational study of visual analytics that gives early career professionals in-depth training by leaders in the field. Participants work with datasets, learn how to think like an analyst and listen to panels and presentations from government agency representatives.

CONSORTIUM AND CONFERENCES

The Visualization and Analytics Center Consortium provides a forum where RVAC representatives, industry leaders and government specialists share knowledge, demonstrate tools and collaborate to further advance visual analytics research.

NVAC actively participates in conferences, workshops and other forums. This participation provides connection to the user community and influences the direction for both development and deployment of solutions and future generations of information and visual analytics.

ABOUT PNNL

The Pacific Northwest National Laboratory, located in southeastern Washington State, is a U.S. Department of Energy Office of Science laboratory that solves complex problems in energy, national security and the environment, and advances scientific frontiers in the chemical, biological, materials, environmental and computational sciences. The Laboratory employs more than 4,200 staff members, has a \$918 million annual budget, and has been managed by Ohio-based Battelle since 1965.

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Visualization and Analytics Centers



VAC Consortium Members



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Pacific Northwest
NATIONAL LABORATORY

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