

Visual analytics software startup could help first responders save lives

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Davista Technologies LLC, a startup that licensed a Purdue University innovation, has developed a visual data analytics solutions technology that could provide real-time information to help first responders save lives.

"Companies and organizations, specifically those in law enforcement, [public safety](#) and health care, are constantly inundated with huge amounts of text, audio and visual data, and are required to make sense of this data as quickly as possible to make effective decisions," said Abish Malik, research scientist and co-founder of Davista Technologies. "What we have developed provides concise, relevant information to help first responders make faster decisions in a critical situation when every second matters."

Davista Technologies specializes in mass spatial-temporal and predictive data analytics solutions.

"Nearly all data sets deal with space and time but most analytics companies look at these two elements separately. We focus on them together to achieve more accurate forecasting so organizations can better plan their resources," said David Ebert, Silicon Valley Professor of Electrical and Computer Engineering, director of Visual Analytics for Command, Control and Interoperability Environments center and co-founder of the company. "Davista Technologies software integrates a large amount of intelligence with a variety of visualization elements in an easy-to-use interface. This makes it easier for organizations to make

better decisions from large, disparate and complex datasets from a multitude of sources and formats."

Davista Technologies originated out of the U.S. Department of Homeland Security Center of Excellence.

Ebert said the company's research was conducted over seven years with a primary goal to serve the public safety domain.

"The imperative from [homeland security](#) has been really beneficial because from the beginning it's allowed us to interact with end users such as police departments and other safety and security entities. These organizations have collaborated with us on designing problems and creating solutions for those problems, testing the product and giving real world feedback," he said. "All of the features that are in the product are driven by needs of actual professionals in the field."

Davista Technologies has established relationships with several government and corporate entities that use their products every day.

"Every time someone calls 911, a police officer is dispatched, the Coast Guard launches a boat or a patient goes into the emergency department, a record is created and data is formed and categorized," Malik said. "For police chiefs, understanding this data is vital to making decisions on when, where and how many police officers should be out patrolling. These decisions can be easily made by using our predictive capabilities which are based on past crime trends from location and time data. Making these effective decisions could potentially intercept or prevent further crimes happening in those areas."

Ebert said the company's social media solutions also have many benefits.

"Our anomaly detection capabilities used in our social media solutions

could be especially beneficial in terrorism or gun violence situations," he said. "For example, if 5,000 people are tweeting about an event such as a football game and only 10 are tweeting about a potential threat such as someone with a gun, our technology can pick up those 10 tweets and can notify users and organizations so they can act immediately. Other services just pick up on the most talked about topics."

Davista Technologies offers three products and services - Visdom Visual, Visdom Analytics and Smart.

"Visdom Visual provides interactive business intelligence and reporting solutions for large data sets, illustrating complex information for real time decision-making. The product incorporates easy to use map and time visualizations and a dashboard interface," said Malik. "We also offer an analytics search engine that is able to ingest data from different sources and different varieties that incorporates enhanced correlative and predication techniques for situational awareness and risk based decision making. Smart is our scalable and interactive social media analytics and visualization solution, its anomaly detection capability is able to identify things that are not yet trending but are still being talked about."

Malik said although their original research was based on safety and security, the technology could have a range of applications.

"We have previously worked with emergency department data coming in daily from hospitals around the state, we've also worked with the Regenstrief Center for Healthcare Engineering, exploring insurance data," he said. "The products we have are generic and diversified and could be used in just about any organization that is trying to make sense of big streams of data."

Davista Technologies is exploring new markets and is acquiring their

first paying customers. To grow, the company is seeking investors and personnel.

Provided by Purdue University

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