

CASE STUDY: OSU Students Uncover, Explain, & Predict with *Data Miner's* Impressive Array of Data Mining Algorithms

BACKGROUND

Oklahoma State University is a well-known, comprehensive, land-grant university and research institution that focuses on people and opportunity. In addition to the large population of traditional students, also many non-traditional students, working full-time in industry, are enrolled. These non-traditional students bring a wide variety of classification and prediction problems to be solved with *STATISTICA Data Miner's* tools and techniques. Some of the recent problems include: the prediction of diabetic illnesses based on demographic, social and recreational parameters, target marketing models for better promotional mailing, prediction of financial indicators such as the S&P 500, and Foreign exchange rates among others.

STATISTICA DATA MINER VERSUS THE COMPETITION

After looking into all of the leading data mining tools, Oklahoma State University chose to use *STATISTICA Data Miner* based on following factors:

- ▲ An impressive array of data mining algorithms.
- ▲ A graphical, interactive, user-friendly interface, including a process map. A complete project can be drawn using graphical icons and connection arcs and be run all together at once.
- ▲ The superior graphical capabilities of the tool.
- ▲ The fact that *STATISTICA Data Miner* can be launched as a Web application so that everybody with permission can use it from within a Web browser without installing any client side components.

According to Dr. Dursun Delen, Assistant Professor, Department of Management Science and Information Systems, "These features made *STATISTICA Data Miner* the premier choice to be used for teaching data mining to graduate IT students and to be used for our academic research endeavors." In addition, despite its advantages over other tools, *STATISTICA Data Miner* was not more expensive than other comprehensive toolkits on the market.

STATISTICA DATA MINER STRENGTHS

STATISTICA Data Miner has provided everything OSU students need for their data mining projects. "We have been impressed by a variety of strengths in *STATISTICA Data Miner*, including: the comprehensive array of algorithms, the rich set of visualization tools, and the impressive processing speed," said Dr. Delen. "As far as the algorithms are concerned, based on my years of experience in industry and in academia, I can confidently say that *STATISTICA Data Miner* has one of the most comprehensive data mining algorithms on the market, covering such application areas as prediction (e.g., regression), classification (e.g., classification and regression trees, neural networks, discriminant analysis), clustering (e.g., k-Means, Kohonen SOM) and association rule mining (e.g., *a priori* algorithm)."

In addition to one of the most efficiently implemented modeling algorithms, a rich set of data preprocessing and data visualization algorithms are also integrated into *STATISTICA Data Miner*. The product takes advantage of multi processor environments by facilitating parallel processing on the server site, and by doing so, dramatically increasing the execution speed of the data mining projects for OSU students trying to meet looming deadlines. The tool provides all kinds of graphical and tabular outputs for a wide variety of data mining algorithms. Based on the selection made by the user in the project specification interface, each data mining algorithm can produce simple, enhanced and comprehensive output reports. *STATISTICA Data Miner* also provides users with a deployment feature by which the end user can easily turn the developed data mining models into production system.

DOCUMENTATION AND SUPPORT

OSU students found the product documentation to be comprehensive and the step-by-step tutorial a valuable tool in order to quickly learn the program.

Dr. Delen remembers the positive experience with StatSoft technical support during implementation, "We have received exceptional support StatSoft, Inc. They came to our site to install the software on our Web server and have answered all of our questions about the tool and its features. They have been very patient, courteous, and helpful to us throughout the entire purchase process."

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