Advanced Numerical Analysis Combined with Charting

The JMSL Numerical Library for Java applications is the broadest collection of mathematical, statistical, financial, data mining and charting classes available in 100% Java. It is the only Java programming solution that combines integrated charting with the reliable mathematical and statistical functionality of the industry-leading IMSL® Numerical Library algorithms. This blend of advanced numerical analysis and visualization on the Java platform allows organizations to gain insight into valuable data and share analysis results across the enterprise quickly.

Mathematical, Statistical and Charting Functionality

The JMSL Library provides robust data analysis and visualization technology for the Java platform and a fast, scalable framework for tailored analytical applications. By leveraging its pre-built algorithms, users can save weeks or months of development effort by embedding JMSL Library classes rather than building new algorithms from scratch.

The JMSL Library provides a broad range of functionality, from basic algorithms such as linear algebra and regression to advanced neural network forecasting and other data mining, modeling and prediction technologies. The neural network forecasting classes have tremendous potential for businesses by offering the ability to build predictive models using historical data and training the network to optimize the model over time as more information is obtained. This functionality can be applied to an unlimited set of applications, such as bioinformatics and life sciences, fraud detection, risk management and portfolio optimization, manufacturing yield analysis and more.

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“The numerical classes in the JMSL Numerical Library allow iSTRDY (Dynatech analysis software package) to reliably solve heat transfer, forced response, and natural frequency calculations of large, complicated rotating systems. This frees us to concentrate on providing analysis features, rather than worrying about developing solution algorithms.”

Lyn Greenhill
President
DynaTech Engineering

“I use JMSL’s classes as the building blocks to construct Java applets. I tried other products that provided both numerical functions and graphing capabilities. However, they did not provide adequate interactivity comparable to Java applets.”

Gary McClelland
Professor, Department of Psychology
University of Colorado, Boulder
Powerful Charting Capabilities

The JMSL Numerical Library V6.0 offers a new Tree Map class adding to the extensive array of charting types. The chart types range from traditional scatter plots and bar graphs, to statistical process control charts and box plots, to unique types such as dendrogram for hierarchical cluster analysis visualization. Following a flexible object-oriented design, the customizable built-in types are easily embedded in desktop and web applications.

New Functions

JMSL version 6.0 has added 27 new classes to its libraries providing unique numerical analysis techniques to customers solving analytic problems in finance, business intelligence, data mining, and other areas of business, science and research.

With version 6.0:

- Finance customers will benefit from a new Feynman-Kac algorithm that solves Black-Scholes problems, two new least squares optimizers, Random Copula methods, Survival Analysis, Logistic and Pareto distributions
- Business intelligence and data mining software developers can leverage Naïve Bayes for classification and text mining problems. In addition, new classification capabilities in the Neural Network algorithm and new ways to select ARIMA models offer additional classification and forecasting techniques.

Typical Application Areas

Today, major corporations, academic institutions, and research laboratories worldwide use the JMSL Library. Example application areas include:

- Risk management in financial services and insurance
- Portfolio optimization in financial services
- Business intelligence extensions for data warehouse software
- Statistical analysis of manufacturing test data
- Inventory management and demand forecasting
- Medical and biological system R&D and modeling

Expert Consulting Services

The highly-skilled technical experts in Rogue Wave’s services organization know how to help you get the most from your investment in advanced analytics. They can provide assistance ranging from custom algorithm development to recommendations on how to better leverage analysis and visualization capabilities throughout your organization. Rogue Wave’s technical expertise and dedicated hands-on assistance can be utilized to achieve the highest return on your investment.