IMSL

PERFORCE

PRODUCT BRIEF

Embeddable Algorithms for Data Mining and Analysis

Getting actionable results from your large and very large datasets can often determine if your organization meets its goals. IMSL Numerical Libraries provide mathematical and statistical algorithms that can be embedded into C, C++, Java, Fortran, and Python applications, including many databases. With IMSL, you can:

- Address complex problems quickly by using the right algorithm.
- Create competitive differentiation.
- Unlock innovation by using the most trusted, tested, and reliable algorithms available.
- Maintain consistency from prototype to production.

THE IMSL NUMERICAL LIBRARIES ARE AVAILABLE FOR:

C and C++
Java
Fortran
Python

GET RESULTS THAT MATTER

Developers can save weeks, months, or even years of effort by embedding the algorithms from IMSL Libraries versus building them in-house or using open source. Instead of writing hundreds of lines of code to create new algorithms, a developer can make one simple call to a routine that is fully tested, supported, and documented which allows faster time to market. Plus, IMSL Libraries offer superior error handling. Development time is quicker with input verification. Build bulletproof applications by capturing error messages that check algorithm progress, ill-conditioning and numerical instability, and offer suggestions on what to do next.

- Optimized and validated for compatibility, numerical accuracy, and performance on widely adopted platforms.
- Numerical algorithms are developed, tested, documented and supported by Perforce.
- Consistent commercial-quality interfaces yield faster time to market.
- Save up to 95 percent of the time required to research and develop algorithms.

ACCELERATE DEVELOPMENT

IMSL enhances application performance, reliability, portability, scalability, maintainability, and developer productivity. IMSL Libraries are supported across a wide range of languages, hardware, and operating system environments including Windows and Linux.

IMSL FOR C/C++ (CNL)

CNL takes full advantage of the intrinsic characteristics and desirable features of the C language.

IMSL FOR FORTRAN (FNL)

FNL combines the powerful and flexible interface features of the Fortran language with the performance benefits of both distributed memory and shared memory multiprocessing architectures.

IMSL FOR JAVA (JMSL)

JMSL provides robust data analysis and visualization technology for the Java platform and a fast, scalable framework for tailored analytical applications.

IMSL FOR PYTHON (PyNL)

PyNL leverages the power of the IMSL C Numerical Library to provide native numerical performance to the Python language.

SUPPORTING THE ALGORITHMS YOU NEED

IMSL Libraries deliver a comprehensive set of algorithms in mathematics, statistics, data mining, and forecasting.

Mathematical	Statistical	Data Mining
Linear Algebra	Basic Statistics	Regression
Eigensystem Analysis	Time Series and Forecasting	Cluster Analysis
Interpolation and Approximation	Nonparametric Tests	Neural Networks
Quadrature	Correlation and Covariance	Auto_ARIMA
Differential Equations	Regression	ARMA, GARCH
Feynman-Kac Solver	Analysis of Variance	Genetic Algorithm
Transforms	Goodness of Fit	Naïve Bayes
Nonlinear Equations	Distribution Functions	Logistic Regression
Optimization	Random Number Generation	Principal Components Analysis
Special Functions	Genetic Algorithm	Factor Analysis
Utilities	Naïve Bayes Classification	Variances & Covariances
		Discriminant Analysis
		Analysis of Variance
		Support Vector Machines
		Decision Trees

LEARN MORE ABOUT IMSL AT

www.imsl.com