Analytics using the NAG Library

The Numerical Algorithms Group offers an extensive library of numerical components that include statistics, simulation, data mining, analytics, optimization and forecasting functions. The NAG Library provides advanced, accessible and reliable component routines to enable you to use analytical methods to arrive at optimal solutions to complex decision-making problems.

NAG is relevant in a wide range of analytics application areas
- retail and consumer—forecasting, stock optimization and data fitting
- marketing —surveys, campaign optimization, marketing mix models
- pharmaceutical —forecast simulations and lifecycle management
- logistics —routing, loading and manpower
- finance —credit score, marketing, operations and financial modelling
- telecoms —traffic analysis, tariff models, technology roll-out optimization
- manufacturing —supply chain, stock and production control
- health —theatre capacity, epidemic planning and behaviour simulations
- government —deployment of services, pollution, air safety, and criminal justice policy
- transport —scheduling, ticketing, and planning

The solutions to numerical business problems incorporate techniques from a number of fields including

**Optimization—Statistics—Mathematical Modelling—and much more**

The NAG Library offers over 1,600 components, from these and other relevant areas, to help you with the solution of your analytics problems.

**Reliability and ease of integration**
The whole NAG Library is renowned for its reliability and flexibility. The individual components undergo stringent testing and are each supported by detailed documentation, full examples and a knowledgeable, responsive support service.
The NAG Library can be called from your environments including Java, C, C++, .NET, Excel, VB, R, and others. It is available with support for Microsoft Windows, Linux and Mac OSX operating systems.

**Algorithms that have been developed by experts and collaboration**
NAG maintains strong and vibrant roots in collaboration in the form of jointly funded research and development projects in conjunction with leading experts from around the globe. This helps to make sure that the NAG library is constantly refreshed to give you access to the latest numerical functions for analytics.
When your solutions are based on the NAG Library, they are accurate and easy to maintain.

**Custom algorithmic consultancy**
NAG provide consultancy services to many organizations; ranging from leading aerospace and finance organizations to top software and hardware technology vendors. NAG also has specialist skills in performance tuning for multi-core, many-core and cluster computer systems.

The NAG Library is applicable to problems in areas such as: *Local and global optimization; Time series analysis; Linear Programming, Quadratic Programming, Non-linear programming; Regression; Survival analysis; Multivariate analysis; Ordinary differential equations; partial differential equations; Wavelets; Fourier transforms; Curve and surface fitting*

**…”The NAG Library makes it easy to solve complex problems on multiple computer platforms…”**
Andrew Koh, Research Fellow, Institute for Transport Studies, University of Leeds.

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Results Matter. Trust NAG.