

KnowledgeSTUDIO®

Advanced Modeling for Better Decisions



Companies that compete with analytics are looking for advanced analytical technologies that accelerate decision making and identify opportunities they can act on. Angoss is committed to democratizing the use of advanced analytics with products designed to enable both knowledge workers and data analysts to rapidly solve their most pressing business problems.

KnowledgeSTUDIO builds upon the market-leading data analysis, Decision Tree and predictive analytics capabilities provided in KnowledgeSEEKER with many advanced modeling and predictive analytics features for high-performance business users and quantitative analysts.

KnowledgeSTUDIO uniquely supports big data analytics with 64-bit in-memory addressing, in-database analytics drivers for massive parallel processing and enterprise data warehouse environments—and text analytics.

Text analytics capabilities allow you to merge your proprietary, structured data with unstructured (text-based) data to mine and analyze extremely large datasets and numbers of predictive variables more accurately.

Advanced modeling capabilities include linear and logistic regression, neural networks, scorecards and market basket analysis. Unsupervised learning techniques include cluster analysis and principal component analysis.

Data Preparation, Data Profiling and Exploration

Your first impression of KnowledgeSTUDIO is a familiar interface based on standards similar to the Microsoft Office® environment.

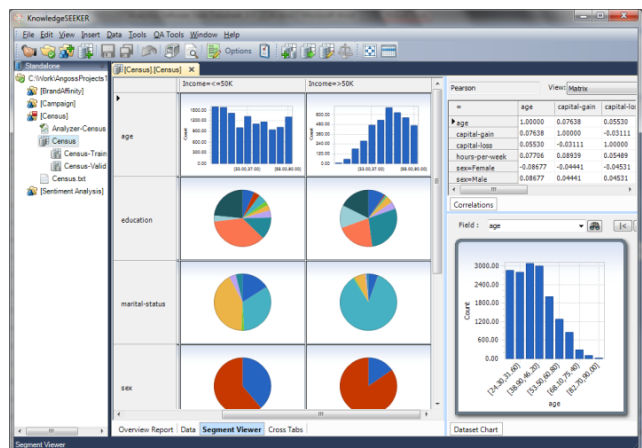
Highly intuitive and easy to use wizards help business users and quantitative analysts save time and obtain the knowledge needed.

KnowledgeSTUDIO is based on open standards and facilitates integration with all types of data sources. Data can be imported from SAS, SPSS, Text, SQL, Microsoft Excel and any database system.

KnowledgeSTUDIO includes data preparation capabilities that allow users to easily extract, manipulate and transform data to prepare it for modeling—from within your enterprise data warehouse. Data preparation wizards increase productivity and efficiency and eliminate the need to write code.

Dataset-level and row-level manipulations are performed using wizards to join, append and aggregate datasets—and remove duplicates.

New variables can be defined using standard ANSI SQL expressions through a data editor wizard. Auto-generation of expressions using helpers is available for common tasks such as missing value substitution and optimal binning.



You can easily access a broad range of reports, graphs and views that allow you to quickly gain an understanding of your data. Charts are available in 2D and 3D, bar, pie, scatter and other types—and are easily copied to any Microsoft Office application.

When potentially thousands of variables are involved, data profiling can provide an excellent starting point for further analysis:

- Overview Report provides univariate statistics such as min/max, mean, standard deviation, sum, variance and others
- Dataset Chart visualizes univariate distributions
- Segment Viewer and Cross Tabs charts visualize multivariate distributions
- Correlation View shows the degree of linear association between pairs of variables

Best-in-Class Decision Trees

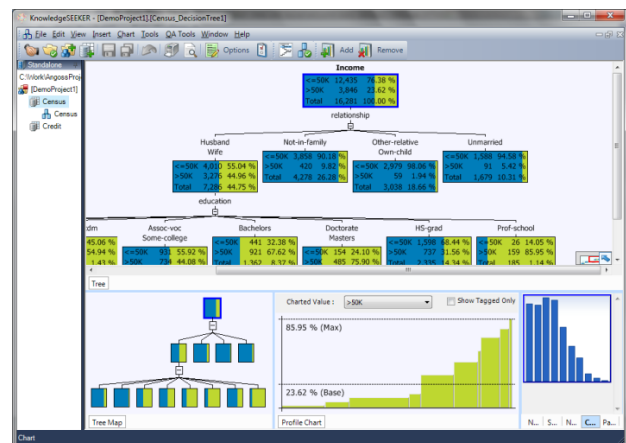
At the core of KnowledgeSEEKER is a powerful patented Decision Tree function. Decision Trees are used extensively in the data discovery phase of a project to discover relationships between variables and determine what data may be important for subsequent modeling tasks.

Decision Trees can also be used effectively in determining a set of business rules that can be integrated into model deployment or used to develop strategies and recommended actions.

Using a graphical interface, Decision Trees can be simply grown and explored to discover hidden patterns in your data. This visual, real-time exploration saves time so your efforts can focus on the development of strategies or further modeling.

Decision Tree features include, among others:

- 4 algorithms based on variants of CHAID and CART algorithms
- Interactive and automatic tree growing with pruning options
- Categorical and continuous dependent variables
- Easy copying of tree views to Microsoft Office applications
- Automatic translation of trees into SAS, SQL, PMML, SPSS and Java code for deployment



StrategyBUILDER™

Angoss' Strategy Trees combine the usability of Decision Trees with a suite of enhancements for strategy developers—providing users with an innovative and unique toolset for strategy design, authoring and validation workflow.

For richer segmentation, Strategy Trees allow for the use of multiple target variables and provide more feedback and control with key performance metric calculations for each node or segment. Automatic code generation for deployment eliminates manual coding errors.

Advanced Modeling and Unsupervised Learning

KnowledgeSTUDIO supports a broad range of advanced models and algorithms including:

- Neural networks
- Linear and logistic regression
- Cluster analysis
- Principal component analysis
- Scorecards

A wizard-driven interface helps users of all levels build effective models, while fine-tuning of model parameters is available for advanced users.

Market Basket Analysis

Advancing support for marketing and sales analytics, KnowledgeSTUDIO includes Market Basket Analysis—to build strategies for product promotions, placement and cross sell.

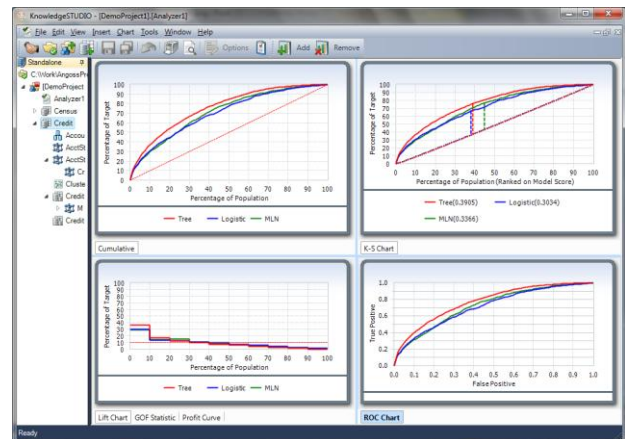
Aside from discovering association rules, Market Basket Analysis helps you visualize the degree of attraction or repulsion between items, view charts representing items most strongly associated with a given item, rank association rules and apply them to new data to produce recommendations.

Automatic generation of SQL code for association rules makes it possible to apply them within database environments.

Model Validation and Deployment

KnowledgeSTUDIO provides an extensive set of model validation and comparison features as well as model deployment tools. Model performance can be evaluated and compared using lift and cumulative lift charts, relative operating characteristic curves and other charts.

All models can be validated against a validation partition or a new dataset. Models can be deployed directly within the application or automatically translated to SAS, SQL and PMML code for deployment in other analytics environments or databases.



Big Data Analytics

KnowledgeSTUDIO works within massive parallel processing and big data environments with 64-bit in-memory addressing and in-database analytics support.

Using the Angoss In-Database Analytics driver, provided as an optional add-on feature, analysts can connect directly to a parallelized and optimized enterprise data warehouse to perform data preparation, data profiling, Decision Tree analysis, advanced modeling and strategy design.

The driver supports Teradata®, Microsoft® SQL Server, Oracle®, and Netezza™ databases for significant analytical performance improvements.

Text Analytics

Angoss offers a Text Analytics add-on that provides text and sentiment analysis—powered by Lexalytics™, the leading text and sentiment analysis engine provider.

Text analytics with KnowledgeSTUDIO can analyze unstructured data such as social media (blogs, tweets, forum posts and newsfeeds), call center logs, emails and other forms of communications. It performs text mining to extract themes and entities, and performs sentiment analysis.

KnowledgeSTUDIO allows you to merge this output of text analytics with your structured, proprietary data and perform data mining and predictive analytics with additional predictive variables to accelerate your predictive and exploratory power.

Models enhanced by the output of text analysis have higher predictive and exploratory power. And the results of the text analysis can be combined with other KnowledgeSTUDIO features to gain further insight into your unstructured data.

Angoss' Text Analytics add-on is available for use on Windows and Red Hat Linux platforms.

KEY BENEFITS

- Data preparation, data profiling, model development and deployment in a single advanced analytical environment.
- Industry-leading Decision Tree functionality for data exploration and business rule generation.
- Ease of use with an intuitive interface, menu and wizard-driven shortcuts, and superior visualization of results.
- Advanced modeling with a broad set of algorithms and tools for complex predictive techniques.
- Exceptional open standards, scalability and flexibility.
- Big data support with 64-bit in-memory analytics and massive parallel processing support with in-database analytics.
- Text analytics capabilities merge structured and unstructured data analysis for improved accuracy with greater numbers of predictive variables.

About Angoss Software

As a global leader in predictive analytics, Angoss helps businesses increase sales and profitability, and reduce risk. Angoss helps businesses discover valuable insight and intelligence from their data while providing clear and detailed recommendations on the best and most profitable opportunities to pursue to improve sales, marketing and risk performance.

Our suite of desktop, client-server and in-database software products and Cloud solutions make predictive analytics accessible and easy to use for technical and business users. Many of the world's leading organizations use Angoss software products and solutions to grow revenue, increase sales productivity and improve marketing effectiveness while reducing risk and cost.

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