Journal of Modern Applied Statistical Methods

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5-1-2007

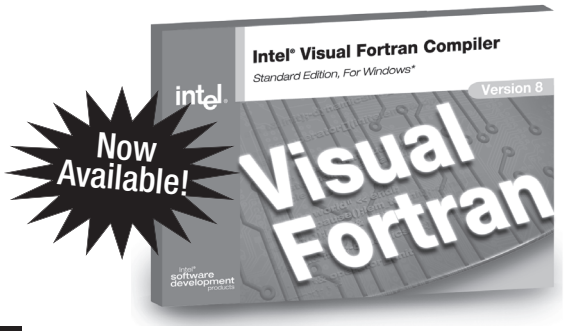
End Matter

JMASM Editors

Two Years in the Making...

Intel® Visual Fortran 8.0

The next generation of Visual Fortran is here! Intel Visual Fortran 8.0 was developed jointly by Intel and the former DEC/Compaq Fortran engineering team.



Visual Fortran Timeline

1997 DEC releases Digital Visual Fortran 5.0

1998 Compaq acquires DEC and releases DVF 6.0

1999 Compaq ships CVF 6.1

2001 Compaq ships CVF 6.6

2001 Intel acquires CVF engineering team

2003 Intel releases Intel Visual Fortran 8.0

Intel Visual Fortran 8.0

- CVF front-end + Intel back-end
- Better performance
- OpenMP Support
- Real*16

Performance

Outstanding performance on Intel architecture including Intel® Pentium® 4, Intel® Xeon™ and Intel Itanium® 2 processors, as well as support for Hyper-Threading Technology.

Compatibility

- **Plugs into Microsoft Visual Studio* .NET**
- **Microsoft PowerStation4 language and library support**
- **Strong compatibility with Compaq* Visual Fortran**

Support

1 year of free product upgrades and Intel Premier Support

"The Intel Fortran Compiler 7.0 was first-rate, and Intel Visual Fortran 8.0 is even better. Intel has made a giant leap forward in combining the best features of Compaq Visual Fortran and Intel Fortran. This compiler... continues to be a 'must-have' tool for any Twenty-First Century Fortran migration or software development project."

—Dr. Robert R. Trippi
Professor Computational Finance
University of California, San Diego

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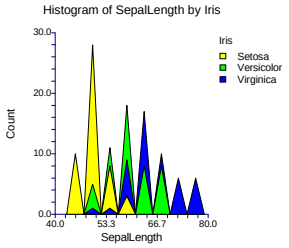

Announcing NCSS 2004
Seventeen New Procedures

NCSS 2004 is a new edition of our popular statistical **NCSS** package that adds seventeen new procedures.

New Procedures
Two Independent Proportions
Two Correlated Proportions
One-Sample Binary Diagnostic Tests
Two-Sample Binary Diagnostic Tests
Paired-Sample Binary Diagnostic Tests
Cluster Sample Binary Diagnostic Tests
Meta-Analysis of Proportions
Meta-Analysis of Correlated Proportions
Meta-Analysis of Means
Meta-Analysis of Hazard Ratios
Curve Fitting
Tolerance Intervals
Comparative Histograms
ROC Curves
Elapsed Time Calculator
T-Test from Means and SD's
Hybrid Appraisal (Feedback) Model

Documentation
The printed, 330-page manual, called ***NCSS User's Guide V***, is available for $29.95. An electronic (pdf) version of the manual is included on the distribution CD and in the Help system.

Two Proportions
Several new exact and asymptotic techniques were added for hypothesis testing (null, noninferiority, equivalence) and calculating confidence intervals for the difference, ratio, and odds ratio. Designs may be independent or paired. Methods include: Farrington & Manning, Gart & Nam, Conditional & Unconditional Exact, Wilson's Score, Miettinen & Nurminen, and Chen.

Meta-Analysis
Procedures for combining studies measuring paired proportions, means, independent proportions, and hazard ratios are available. Plots include the forest plot, radial plot, and L'Abbe plot. Both fixed and random effects models are available for combining the results.

Curve Fitting
This procedure combines several of our curve fitting programs into one module. It adds many new models such as Michaelis-Menten. It analyzes curves from several groups. It compares fitted models across groups using computer-intensive randomization tests. It computes bootstrap confidence intervals.

Tolerance Intervals
This procedure calculates one and two sided tolerance intervals using both distribution-free (nonparametric) methods and normal distribution (parametric) methods. Tolerance intervals are bounds between which a given percentage of a population falls.

Comparative Histogram
This procedure displays a comparative histogram created by interspersing or overlaying the individual histograms of two or more groups or variables. This allows the direct comparison of the distributions of several groups.

Random Number Generator
Matsumoto's Mersenne Twister random number generator (cycle length > 10**6000) has been implemented.

Binary Diagnostic Tests
Four new procedures provide the specialized analysis necessary for diagnostic testing with binary outcome data. These provide appropriate specificity and sensitivity output. Four experimental designs can be analyzed including independent or paired groups, comparison with a gold standard, and cluster randomized.

ROC Curves
This procedure generates both binormal and empirical (nonparametric) ROC curves. It computes comparative measures such as the whole, and partial, area under the ROC curve. It provides statistical tests comparing the AUC's and partial AUC's for paired and independent sample designs.

Hybrid (Feedback) Model
This new edition of our hybrid appraisal model fitting program includes several new optimization methods for calibrating parameters including a new genetic algorithm. Model specification is easier. Binary variables are automatically generated from class variables.

Statistical Innovations Products
Through a *special arrangement* with Statistical Innovations (S.I.), NCSS customers will receive $100 discounts on:

Latent GOLDÒ - latent class modeling
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GOLDMineRÒ - ordinal regression

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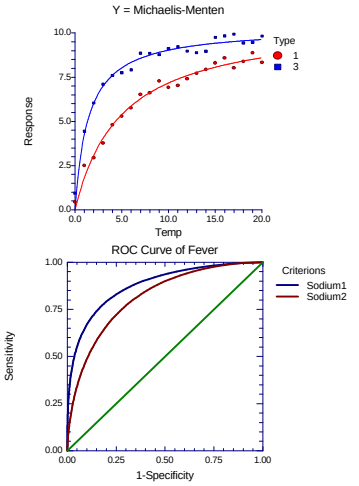
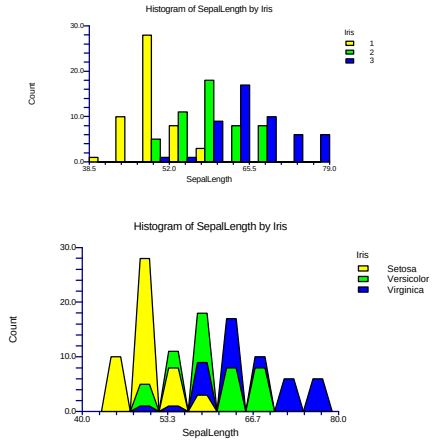
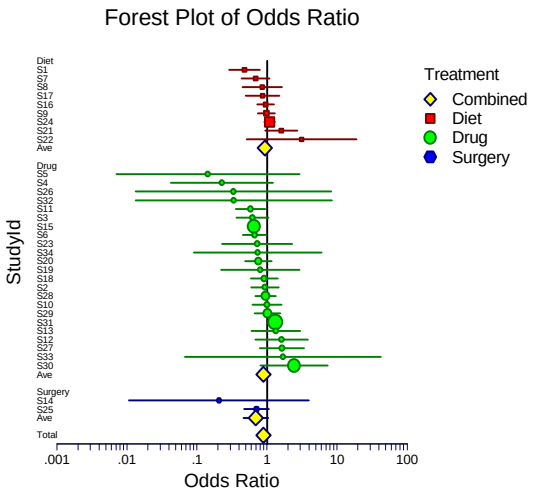






Statistical and Graphics Procedures Available in NCSS 2004

Analysis of Variance / T-Tests
Analysis of Covariance
Analysis of Variance
Barlett Variance Test
Crossover Design Analysis
Factorial Design Analysis
Friedman Test
Geiser-Greenhouse Correction
General Linear Models
Mann-Whitney Test
MANOVA
Multiple Comparison Tests
One-Way ANOVA
Paired T-Tests
Power Calculations
Repeated Measures ANOVA
T-Tests – One or Two Groups
T-Tests – From Means & SD's
Wilcoxon Test

Time Series Analysis
ARIMA / Box - Jenkins
Decomposition
Exponential Smoothing
Harmonic Analysis
Holt - Winters
Seasonal Analysis
Spectral Analysis
Trend Analysis

***New Edition in 2004**

Plots / Graphs
Bar Charts
Box Plots
Contour Plot
Dot Plots
Error Bar Charts
Histograms
Histograms: Combined*
Percentile Plots
Pie Charts
Probability Plots
ROC Curves*
Scatter Plots
Scatter Plot Matrix
Surface Plots
Violin Plots

Experimental Designs
Balanced Inc. Block
Box-Behnken
Central Composite
D-Optimal Designs
Fractional Factorial
Latin Squares
Placket-Burman
Response Surface
Screening
Taguchi

Regression / Correlation
All-Possible Search
Canonical Correlation
Correlation Matrices
Cox Regression
Kendall's Tau Correlation
Linear Regression
Logistic Regression
Multiple Regression
Nonlinear Regression
PC Regression
Poisson Regression
Response-Surface
Ridge Regression
Robust Regression
Stepwise Regression
Spearman Correlation
Variable Selection

Quality Control
Xbar-R Chart
C, P, NP, U Charts
Capability Analysis
Cusum, EWMA Chart
Individuals Chart
Moving Average Chart
Pareto Chart
R & R Studies

Survival / Reliability
Accelerated Life Tests
Cox Regression
Cumulative Incidence
Exponential Fitting
Extreme-Value Fitting
Hazard Rates
Kaplan-Meier Curves
Life-Table Analysis
Lognormal Fitting
Log-Rank Tests
Probit Analysis
Proportional-Hazards
Reliability Analysis
Survival Distributions
Time Calculator*
Weibull Analysis

Multivariate Analysis
Cluster Analysis
Correspondence Analysis
Discriminant Analysis
Factor Analysis
Hotelling's T-Squared
Item Analysis
Item Response Analysis
Loglinear Models
MANOVA
Multi-Way Tables
Multidimensional Scaling
Principal Components

Curve Fitting
Bootstrap C.I.'s*
Built-In Models
Group Fitting and Testing*
Model Searching
Nonlinear Regression
Randomization Tests*
Ratio of Polynomials
User-Specified Models

Miscellaneous
Area Under Curve
Bootstrapping
Chi-Square Test
Confidence Limits
Cross Tabulation
Data Screening
Fisher's Exact Test
Frequency Distributions
Mantel-Haenszel Test
Nonparametric Tests
Normality Tests
Probability Calculator
Proportion Tests
Randomization Tests
Tables of Means, Etc.
Trimmed Means
Univariate Statistics

Meta-Analysis*
Independent Proportions*
Correlated Proportions*
Hazard Ratios*
Means*

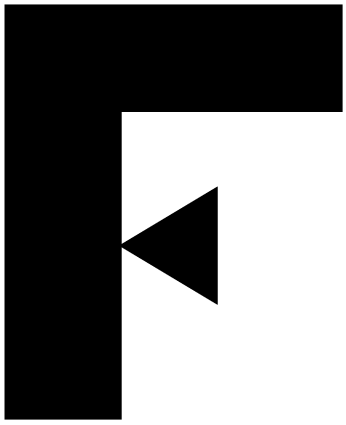
Binary Diagnostic Tests*
One Sample*
Two Samples*
Paired Samples*
Clustered Samples*

Proportions
Tolerance Intervals*
Two Independent*
Two Correlated*
Exact Tests*
Exact Confidence Intervals*
Farrington-Manning*
Fisher Exact Test
Gart-Nam* Method
McNemar Test
Miettinen-Nurminen*
Wilson's Score* Method
Equivalence Tests*
Noninferiority Tests*

Mass Appraisal
Comparables Reports
Hybrid (Feedback) Model*
Nonlinear Regression
Sales Ratios

"Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away."

- Antoine de Saint Exupery



F is a carefully crafted subset of the most recent version of Fortran, the world's most powerful numeric language.

Using F has some very significant advantages:

- Programs written in F will compile with any Fortran compiler
- F is easier to use than other popular programming languages
- ***F compilers are free*** and available for Linux, Windows, and Solaris
- Several books on F are available
- F programs may be linked with C, Fortran 95, or older Fortran 77 programs

F retains the modern features of Fortran—modules and data abstraction, for example—but discards older error-prone facilities of Fortran.

It is a safe and portable programming language.

F encourages Module-Oriented Programming.

It is ideal for teaching a programming language in science, engineering, mathematics, and finance.

It is ideal for new numerically intensive programs.

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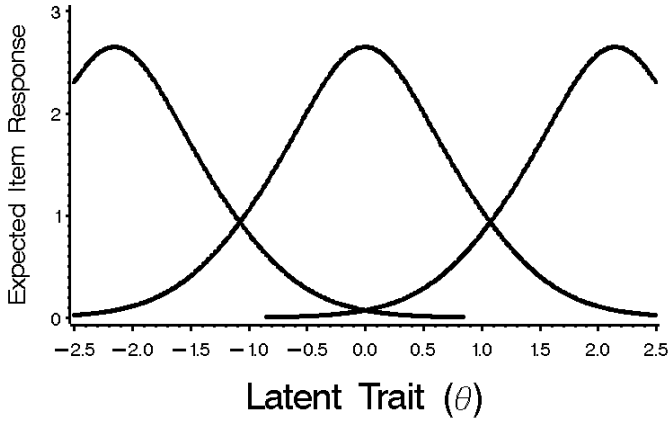
Introducing GGUM2004

Item Response Theory Models for Unfolding



The new GGUM2004 software system estimates parameters in a family of item response theory (IRT) models that unfold polytomous responses to questionnaire items. These models assume that persons and items can be jointly represented as locations on a latent unidimensional continuum. A single-peaked, nonmonotonic response function is the key feature that distinguishes unfolding IRT models from traditional, "cumulative" IRT models. This response function suggests that a higher item score is more likely to the extent that an individual is located close to a given item on the underlying continuum. Such single-peaked functions are appropriate in many situations including attitude measurement with Likert or Thurstone scales, and preference measurement with stimulus rating scales. This family of models can also be used to determine the locations of respondents in particular developmental processes that occur in stages.

The GGUM2004 system estimates item parameters using marginal maximum likelihood, and person parameters are estimated using an expected *a posteriori* (EAP) technique. The program allows for up to 100 items with 2-10 response categories per item, and up to 2000 respondents. GGUM2004 is compatible with computers running updated versions of Windows 98 SE, Windows 2000, and Windows XP. The software is accompanied by a detailed technical reference manual and a new Windows user's guide. ***GGUM2004 is free*** and can be downloaded from:

http://www.education.umd.edu/EDMS/tutorials

GGUM2004 improves upon its predecessor (GGUM2000) in several important ways:

- It has a user-friendly graphical interface for running commands and displaying output.
- It offers real-time graphics that characterize the performance of a given model.
- It provides new item fit indices with desirable statistical characteristics.
- It allows for missing item responses assuming the data are missing at random.
- It allows the number of response categories to vary across items.
- It estimates model parameters more quickly.

Start putting the power of unfolding IRT models to work in your attitude and preference measurement endeavors. Download your free copy of GGUM2004 today!

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- subscription to *Psychological Methods* or *Psychological Assessment* (student members, who pay a reduced fee, do not automatically receive a journal, but may do so for an additional $18)
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Cost of membership: $38 (**APA membership not required**); student membership is only $8

For further information, please contact the Division's Membership Chair, Yossef Ben-Porath (ybenpora@kent.edu) or check out the Division's website:

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For more information, contact Joan Garfield, President of the SIG-ES, at jbg@umn.edu.

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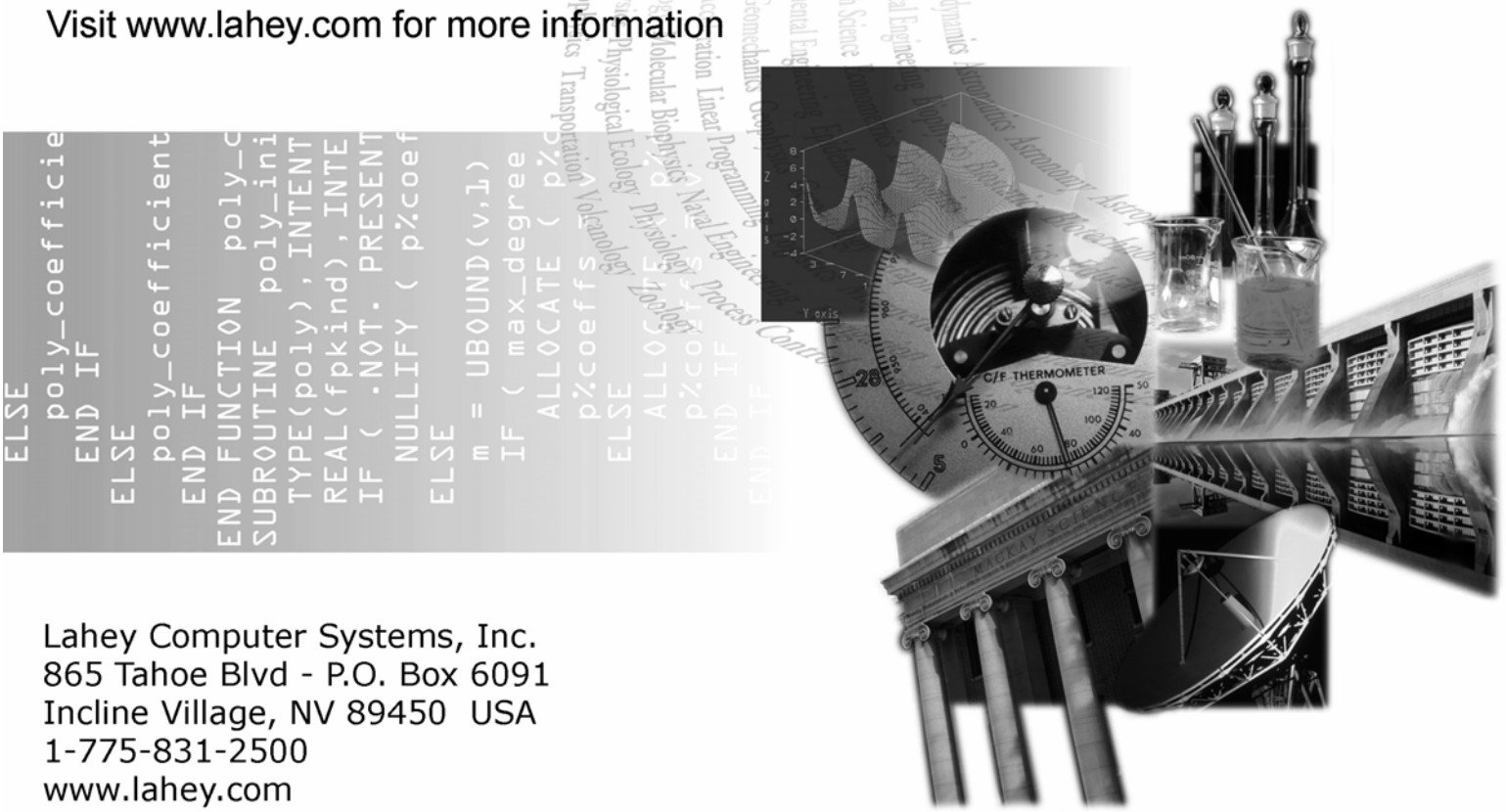

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The full name of the individual, the school where he/she earned a Ph.D., the year of the degree, the title of the dissertation, and, MOST IMPORTANTLY, the full name of the advisor(s). E.g., Fuller, Wayne Arthur; Iowa State University; 1959; ***A Non-Static Model of the Beef and Pork Economy*;** Shepherd, Geoffrey Seddon

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harry.coonce@ndsu.nodak.edu

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