

Preface

This volume contains the revised versions of selected papers presented during the 31st Annual Conference of the German Classification Society (Gesellschaft für Klassifikation – GfKI). The conference was held at the Albert-Ludwigs-University in Freiburg, Germany, in March 2007. The focus of the conference was on Data Analysis, Machine Learning, and Applications, it comprised 200 talks in 36 sessions. Additionally 11 plenary and semi-plenary talks were held by outstanding researchers. With 292 participants from 19 countries in Europe and overseas this GfKI Conference, once again, provided an international forum for discussions and mutual exchange of knowledge with colleagues from different fields of interest. From altogether 120 full papers that had been submitted for this volume 82 were finally accepted.

With the occasion of the 30th anniversary of the German Classification Society the associated societies Sekcja Klasyfikacji i Analizy Danych PTS (SKAD), Vereniging voor Ordinatie en Classificatie (VOC), Japanese Classification Society (JCS) and Classification and Data Analysis Group (CLADAG) have sponsored the following invited talks: Paul Eilers - Statistical Classification for Reliable High-volume Genetic Measurements (VOC); Eugeniusz Gatnar - Fusion of Multiple Statistical Classifiers (SKAD); Akinori Okada - Two-Dimensional Centrality of a Social Network (JCS); Donatella Vicari - Unsupervised Multivariate Prediction Including Dimensionality Reduction (CLADAG).

The scientific program included a broad range of topics, besides the main theme of the conference, especially methods and applications of data analysis and machine learning were considered. The following sessions were established:

I. Theory and Methods

Supervised Classification, Discrimination, and Pattern Recognition (G. Ritter); Cluster Analysis and Similarity Structures (H.-H. Bock and J. Buhmann); Classification and Regression (C. Bailer-Jones and C. Hennig); Frequent Pattern Mining (C. Borgelt); Data Visualization and Scaling Methods (P. Groenen, T. Imaizumi, and A. Okada); Exploratory Data Analysis and Data Mining (M. Meyer and M. Schwaiger); Mixture Analysis in Clustering (S. Ingrassia, D. Karlis, P. Schlattmann and W. Sei-

del); Knowledge Representation and Knowledge Discovery (A. Ultsch); Statistical Relational Learning (H. Blockeel and K. Kersting); Online Algorithms and Data Streams (C. Sohler); Analysis of Time Series, Longitudinal and Panel Data (S. Lang); Tools for Intelligent Data Analysis (M. Hahsler and K. Hornik); Data Preprocessing and Information Extraction (H.-J. Lenz); Typing for Modeling (W. Esswein).

II. Applications

Marketing and Management Science (D. Baier, Y. Boztug, and W. Steiner); Banking and Finance (K. Jajuga and H. Locarek-Junge); Business Intelligence and Personalization (A. Geyer-Schulz and L. Schmidt-Thieme); Data Analysis in Retailing (T. Reutterer); Econometrics and Operations Research (W. Polasek); Image and Signal Analysis (H. Burkhardt); Biostatistics and Bioinformatics (R. Backofen, H.-P. Klenk and B. Lausen); Medical and Health Sciences (K.-D. Wernecke); Text Mining, Web Mining, and the Semantic Web (A. Nürnberger and M. Spiliopoulou); Statistical Natural Language Processing (P. Cimiano); Linguistics (H. Goebel and P. Grzybek); Subject Indexing and Library Science (H.-J. Hermes and B. Lorenz); Statistical Musicology (C. Weihs); Archaeology and Archaeometry (M. Helfert and I. Herzog); Psychology (S. Krolak-Schwerdt); Data Analysis in Higher Education (A. Hilbert).

Contributed Sessions (by CLADAG and SKAD)

Latent class models for classification (A. Montanari and A. Cerioli); Classification and models for interval-valued data (F. Palumbo); Selected Problems in Classification (E. Gatnar); Recent Developments in Multidimensional Data Analysis between research and practice I (L. D'Ambra); Recent Developments in Multidimensional Data Analysis between research and practice II (B. Simonetti).

The editors would like to emphatically thank all the section chairs for doing such a great job regarding the organization of their sections and the associated paper reviews.

Cordial thanks also go to the members of the scientific program committee for their conceptual and practical support as well as for the paper reviews: D. Baier (Cottbus), H.-H. Bock (Aachen), H. Bozdogan (Tennessee), J. Buhmann (Zürich), H. Burkhardt (Freiburg), A. Cerioli (Parma); R. Decker (Bielefeld), W. Gaul (Karlsruhe), A. Geyer-Schulz (Karlsruhe), P. Groenen (Rotterdam), T. Imaizumi (Tokyo), K. Jajuga (Wroclaw), R. Kruse (Magdeburg), S. Lang (Innsbruck), B. Lausen (Erlangen-Nürnberg), H.-J. Lenz (Berlin), F. Murtagh (London), H. Ney (Aachen), A. Okada (Tokyo), L. Schmidt-Thieme (Hildesheim), C. Schnoerr (Mannheim), M. Spiliopoulou (Magdeburg), C. Weihs (Dortmund), D. A. Zighed (Lyon).

Furthermore we would like to thank the additional reviewers: A. Hotho, L. Marinho, C. Preisach, S. Rendle, S. Scholz, K. Tso.

The great success of this conference would not have been possible without the support of many people mainly working in the backstage. We would like to particularly thank M. Temerinac (Freiburg), J. Fehr (Freiburg), C. Findlay (Freiburg), E. Patschke (Freiburg), A. Busche (Hildesheim), K. Tso (Hildesheim), L. Marinho (Hildesheim) and the student support team for their hard work in the preparation

of this conference, for the support during the event and the post-processing of the conference.

The GfKI Conference 2007 would not have been possible in the way it took place without the financial and/or material support of the following institutions and companies (in alphabetical order): Albert-Ludwigs-University Freiburg – Faculty of Applied Sciences, Gesellschaft für Klassifikation e.V., Microsoft München and Springer Verlag. We express our gratitude to all of them. Finally, we would like to thank Dr. Martina Bihn from Springer Verlag, Heidelberg, for her support and dedication to the production of this volume.

Hildesheim, Freiburg and Bielefeld, February 2008

*Christine Preisach
Hans Burkhardt
Lars Schmidt-Thieme
Reinhold Decker*

Data Analysis, Machine Learning and Applications
Proceedings of the 31st Annual Conference of the
Gesellschaft für Klassifikation e.V.,
Albert-Ludwigs-Universität Freiburg, March 7-9, 2007
Preisach, C.; Burkhardt, H.; Schmidt-Thieme, B.; Decker,
R. (Eds.)
2008, XVI, 719 p.,
ISBN: 978-3-540-78246-9