

List of Publications

Dr. Andreas Rauber

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International Journal Articles

1. A. Rauber, E. Pampalk, and D. Merkl.
The SOM-enhanced JukeBox: Organization and Visualization of Music Collections Based on Perceptual Models.
In *Journal of New Music Research (JNMR)*, 32(2):193-210, Swets and Zeitlinger, June 2003.
2. A. Rauber, and D. Merkl.
Text Mining in the SOMLib Digital Library System: The Representation of Topics and Genres.
In *Kluwer Journal of Applied Intelligence (AI)*, 18(3):271-293, May/June 2003.
3. A. Rauber, D. Merkl, and M. Dittenbach.
The Growing Hierarchical Self-Organizing Map: Exploratory Data Analysis of High-Dimensional Data.
In *IEEE Transactions on Neural Networks (TNN)*, 13(6):1331-1341, November 2002.
4. M. Dittenbach, A. Rauber, and D. Merkl.
Uncovering Hierarchical Structure in Data Using the Growing Hierarchical Self-Organizing Map.
In *Neurocomputing*, 48(1-4):199-216, October 2002.
5. A. Rauber, and D. Merkl.
Automatic Labeling of Self-Organizing Maps for Information Retrieval
In *Journal of Systems Research and Information Systems (JSRIS)*, 10(10):23-45. December 2001.
6. A. Rauber, and J. Paralic.
Cluster Analysis as a First Step in the Knowledge Discovery Process.
In *Journal of Advanced Computational Intelligence (JACI)*, 4(4):258-262, December 2000.
7. A. Rauber, E. Pampalk, and J. Paralic.
Empirical Evaluation of Clustering Algorithms.
In *Journal of Information and Organizational Sciences (JIOS)*, 24(2):195-209, 2000.

Austrian/German Journal Articles

1. C. Rauch, and A. Rauber.
Anwendung der Nutzwertanalyse zur Bewertung von Strategien zur langfristigen Erhaltung digitaler Objekte.
In *Zeitschrift für Bibliothekswesen und Bibliographie*, 52(3-4):172-180, May-August 2005, Klostermann. Frankfurt, Germany.
2. A. Rauber, and A. Aschenbrenner.
Part of our culture is born digital - On efforts to preserve it for future generations.
In *TRANS. On-line Journal for Cultural Studies (Internet-Zeitschrift für Kulturwissenschaften)*, 10, INST, July 2001.
3. A. Rauber, E. Schweighofer, and D. Merkl.
Text classification and labelling of document clusters with self-organising maps.
In *Journal of the Austrian Society for Artificial Intelligence (ÖGAI)*, 19(3):17-23, October 2000.
4. A. Rauber.
Cluster Visualisierung in Unüberwachten Neuronalen Netzen.
In *Journal of the Austrian Society for Artificial Intelligence (ÖGAI)*, 17(4):3-6, December 1998.

Conference Publications

1. Andreas Pesenhofer, Helmut Berger, Michael Dittenbach, and Andreas Rauber.
Applying Text Classification in Conference Management: Some Lessons Learned.
In *Proceedings of the 7th Russian Conference on Digital Libraries (RCDL 2005)*, pp. 126-133, October 4-6 2005, Yaroslavl, Russia.
2. Andreas Pesenhofer, Helmut Berger, and Andreas Rauber.
Supporting ECDL'05 using TCeReview.
In *Proceedings of the 9th European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2005)*, pp. 535-536, September 18-23 2005, Vienna, Austria.
3. Thomas Lidy, Andreas Rauber.
Evaluation of Feature Extractors and Psycho-acoustic Transformations for Music Genre Classification.
In *Proceedings of the Sixth International Conference on Music Information Retrieval (ISMIR 2005)*, pp. 34-41, London, UK, September 11-15, 2005.
4. Robert Neumayer, Michael Dittenbach, Andreas Rauber.
PlaySOM and PocketSOMPlayer: Alternative Interfaces to Large Music Collections.
In *Proceedings of the Sixth International Conference on Music Information Retrieval (ISMIR 2005)*, pp. 618-623, London, UK, September 11-15, 2005.
5. Thomas Lidy, Georg Pözlzbauer, Andreas Rauber.
Sound Re-Synthesis from Rhythm Pattern Features: Audible Insight into a Music Feature Extraction Process.
In *Proceedings of the International Computer Music Conference (ICMC 2005)*, pp. 93-96, September 5-9 2005, Barcelona, Spain.
6. Georg Pözlzbauer, Michael Dittenbach, Andreas Rauber.
Gradient visualization of grouped component planes on the SOM lattice.
In *Proceedings of the 5th Workshop On Self-Organizing Maps Paris (WSOM 2005)*, pp. 331-338, September 5-8 2005, Paris, France.
7. Rudolf Mayer, Dieter Merkl, Andreas Rauber.
Mnemonic SOMs: Recognizable Shapes for Self-Organizing Maps.
In *Proceedings of the 5th Workshop On Self-Organizing Maps Paris (WSOM 2005)*, pp. 131-138, September 5-8 2005, Paris, France.
8. Michael Dittenbach, Andreas Rauber, and Georg Pözlzbauer.
Investigation of Alternative Strategies and Quality Measures for Controlling the Growth Process of the Growing Hierarchical Self-Organizing Map.
In *Proceedings of the International Joint Conference on Neural Networks (IJCNN 2005)*, pp. 2954-2959, July 31-August 4, 2005, Montreal, Canada.
9. Georg Pözlzbauer, Michael Dittenbach, Andreas Rauber.
A visualization technique for Self-Organizing Maps with vector fields to obtain the cluster structure at desired levels of detail.
In *Proceedings of the International Joint Conference on Neural Networks (IJCNN 2005)*, pp. 1558-1563, July 31-August 4, 2005, Montreal, Canada.
10. R. Neumayer, T. Lidy, and A. Rauber.
Content-based Organization of Digital Audio Collections.
In *Proceedings of the 5th Open Workshop of MUSICNETWORK*, Vienna, Austria, July 4-5, 2005.
11. G. Pözlzbauer, A. Rauber, and M. Dittenbach.
A novel vector field visualization for Self-Organizing Maps and its applications in the petroleum industry.
In *Proceedings of the Symposium on Knowledge and Information Visualisation (iKnow 2005)*, pp. 502-509, June 29 2005, Graz, Austria.
12. G. Pözlzbauer, A. Rauber, and M. Dittenbach.
Advanced Visualization Techniques for Self-organizing Maps with Graph-Based Methods.
In *Proceedings of the Second International Symposium on Neural Networks (ISNN'05)*, pp. 75-80, May 30 - June 1 2005, Chongqing, China. Springer.

13. G. Pözlbauer, A. Rauber, and M. Dittenbach.
A Vector Field Visualization Technique for Self-organizing Maps.
In *Proceedings of the Ninth Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'05)*, pp. 399-409, May 18-20 2005, Hanoi, Vietnam. Springer.
14. C. Rauch C., F. Pavuza, S. Strodl, and Rauber A.
Evaluating preservation strategies for audio and video files.
In *Proceedings of the DELOS Workshop on Digital Repositories: Interoperability and Common Services*, May 11-13 2005, Heraklion, Greece.
15. M. Dittenbach, R. Neumayer, and A. Rauber.
PlaySOM: An Alternative Approach to Track Selection and Playlist Generation in Large Music Collections.
In *Proceedings of the First International Workshop of the EU Network of Excellence DELOS on Audio-Visual Content and Information Visualization in Digital Libraries (AVIVDiLib 2005)*, pp. 226-235, May 4-6, 2005, Cortona, Italy.
16. G. Pözlbauer, A. Rauber, and M. Dittenbach.
Graph projection techniques for Self-Organizing Maps.
In *Proceedings of the European Symposium on Artificial Neural Networks (ESANN'05)*, April 27-29 2005, Bruges, Belgium. d-side.
17. M. Auer, C. Becker, A. Rauber, and S. Biffl.
Implicit Analogy-based Cost Estimation Using Textual Use Case Similarities.
In *Proceedings of the International Conference on Intelligent Computing and Information Systems (ICICIS 2005)*, March 5-7 2005, Cairo, Egypt.
18. C. Rauch, and A. Rauber.
Preserving Digital Media: Towards a Preservation Solution Evaluation Metric.
In *Proceedings of the Intern2nd ational Conference on Asian Digital Libraries (ICADL 2004)*, pp. 203-212, Springer LNCS 3334, December 13-17 2004, Shanghai, China.
19. S. Leitich, and A. Rauber.
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In *Proceedings of the 6th Russian Conference on Digital Libraries (RCDL 2004)*, pp. 207-215, September 29 - October 1 2004, Pushchino, Russia.
20. Ahmed M., Hoang H.H., Karim M.S., Khusro S., Lanzenberger M., Latif K., Michlmayr E., Mustofa K., Nguyen H.T, Rauber A., Schatten A., Tho M. N., Tjoa A M.
SemanticLIFE - A Framework for Managing Information of a Human Lifetime.
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21. A. Rauber.
Creation and Exploration of Musical Information Spaces.
In: *Proceedings of the International Conference on Digital Libraries (ICDL2004)*, pp. 741-748, February 24-27 2004, New Delhi, India.
22. H. Avancini, A. Rauber, and F. Sebastiani.
Organizing Digital Libraries by Automated Text Categorization.
In: *Proceedings of the International Conference on Digital Libraries (ICDL2004)*, pp. 919-931, February 24-27 2004, New Delhi, India.
23. D. Merkl, S.H. He, M. Dittenbach, and A. Rauber.
Adaptive Hierarchical Incremental Grid Growing: An Architecture for High-Dimensional Data Visualization.
In *Proceedings of the Workshop on Self-Organizing Maps (WSOM 2003)*, pp. 293-298, September 11-14 2003, Kitakyushu, Japan.
24. T. Lidy, and A. Rauber.
Genre-based Organization of Music Collections Using the SOMeJB System: An Analysis of Rhythm Patterns and Other Features.
In *Proceedings of the DELOS Workshop on Multimedia Contents in Digital Libraries*, Chania, Crete, June 2-3 2003. ERCIM.

25. E. Pampalk, A. Rauber, and D. Merkl.
Content-based Organization and Visualization of Music Archives.
In *Proceedings of the ACM Multimedia Conference (ACM MM02)*, pp. 570-579, December 1-6, 2002, Juan-les-Pins, Nice, France. ACM.
26. M. Dittenbach, D. Merkl and A. Rauber.
Organizing and Exploring High-Dimensional Data with the Growing Hierarchical Self-Organizing Map.
In *Proceedings of the 1st International Conference on Fuzzy Systems and Knowledge Discovery (FSKD02)*, November 18-22, 2002, Singapore.
27. A. Rauber, E. Pampalk, and D. Merkl.
Using Psycho-Acoustic Models and Self-Organizing Maps to Create a Hierarchical Structuring of Music by Musical Styles.
In *Proceedings of the 3rd International Conference on Music Information Retrieval (ISMIR 2002)*, October 13-17, 2002, Paris, France. IRCAM.
28. A. Rauber, A. Aschenbrenner, and O. Witvoet.
Austrian On-Line Archive Processing: Analyzing Archives of the World Wide Web.
In *Proceedings of the 6th European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2002)*, Springer Lecture Notes in Computer Science (LNCS), Rome, Italy, September 16-18, 2002. Springer.
29. A. Rauber, O. Witvoet, and A. Aschenbrenner.
Putting the World Wide Web into a Data Warehouse: A DWH-based Approach to Web Analysis.
In *Proceedings of the DEXA Workshop on Very Large Data Warehouses (VLDWH 2002)*, Aix-en-Provence, France, September 2 - 6, 2002. IEEE.
30. E. Pampalk, A. Rauber, and D. Merkl.
Smoothed Data Histograms for Cluster Visualization in Self-Organizing Maps.
In *Proceedings of the International Conference on Artificial Neural Networks (ICANN 2002)*, Springer Lecture Notes in Computer Science, Madrid, Spain, August 27-30, 2002. Springer.
31. A. Rauber, E. Pampalk, and D. Merkl.
Content-based Music Indexing and Organization.
In *Proceedings of the 25th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2002)*, Tampere, Finland, August 11-15, 2002. ACM.
32. E. Schweighofer, G. Haneder, A. Rauber, and M. Dittenbach.
Improvement of vector representations of legal documents with legal ontologies.
In *Proceedings of the Fifth International Conference on Business Information Systems (BIS 2002)*, Poznan, Poland, April 24-25 2002. Springer.
33. A. Rauber, M. Dittenbach, and D. Merkl.
Towards automatic content-based organization of multilingual digital libraries: An english, french and german view of the russian information agency nowosti news.
In *Proceedings of the Third All-Russian Scientific Conference "Digital Libraries: Advanced Methods And Technologies, Digital Collections" (RCDL01)*, Petrozavodsk, Russia, September 11-13 2001.
34. A. Rauber and M. Frühwirth.
Automatically analyzing and organizing music archives.
In *Proceedings of the 5. European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2001)*, Springer Lecture Notes in Computer Science, Darmstadt, Germany, Sept. 4-8 2001. Springer.
35. E. Schweighofer, A. Rauber, and M. Dittenbach.
Improving the quality of labels for self-organising maps using fine-tuning.
In *Proceedings of the DEXA Workshop on Legal Information Systems and Applications (LISA01)*, Munich, Germany, Sept. 4 2001. IEEE Press.
36. M. Dittenbach, A. Rauber, and D. Merkl. Business, culture, politics, and sports – how to find your way through a bulk of news? On content-based hierarchical structuring and organization of large document archives.
In *Proceedings of the 12th International Conference on Database and Expert Systems Applications*, Lecture Notes in Computer Science, Munich, Germany, Sept. 3-7 2001. Springer.

37. M. Dittenbach, D. Merkl, and A. Rauber.
Hierarchical clustering of document archives with the growing hierarchical self-organizing map.
In *Proceedings of the International Conference on Artificial Neural Networks (ICANN01)*, Vienna, Austria, Aug. 21-25 2001.
38. A. Rauber and A. Müller-Kögler.
Integrating automatic genre analysis into digital libraries.
In *Proceedings of the First ACM-IEEE Joint Conference on Digital Libraries (JCDL01)*, pages 1–10, Roanoke, VA, June 24-28 2001. ACM.
39. M. Dittenbach, A. Rauber, and D. Merkl.
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40. E. Schweighofer, A. Rauber, and M. Dittenbach.
Automatic text representation, classification and labeling in european law.
In *Proceedings of the International Conference on AI and Law 2001 (ICAAIL2001)*, St. Louis, MI, May 21-25 2001.
41. M. Frühwirth and A. Rauber.
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In M. Marinaro and R. Tagliaferri, editors, *Proceedings of the 12. Italian Workshop on Neural Nets (WIRN01)*, Perspectives in Neural Computing, Vietri sul Mare, Italy, May 17 - 19 2001. Springer.
42. D. Merkl and A. Rauber.
Representation of document archives for interactive exploration.
In K. Böhm, B. Croft, and H. Schek, editors, *Proceedings of the First DELOS Network of Excellence Workshop on Information Seeking, Searching, and Querying in Digital Libraries*, Zürich, Switzerland, December 11-12 2000.
43. D. Merkl, and A. Rauber.
Digital Libraries – Classification and Visualization Techniques
In *Proceedings of the International Conference on Digital Libraries (ICDL00)*, Kyoto, Japan, November 13-16 2000.
44. A. Rauber, P. Tomsich, H. Riedel, and Z. Kouba.
Integrating geo-spatial data into OLAP systems using a set-based quad-tree representation
In L.M. Camarinha-Matos, H. Afsarmanesh, and H.-H. Erbe, editors, *Proceedings of the 4th IEEE / IFIP International Conference on Information Technology for BALANCED AUTOMATION SYSTEMS in Production and Transportation (BASYS 2000)*, in Advances in Networked Enterprises, Berlin, Germany, September 27-29 2000. Kluwer Academic Publishers.
45. A. Rauber, M. Dittenbach, and D. Merkl.
Automatically detecting and organizing documents into topic hierarchies: A neural-network based approach to bookshelf creation and arrangement.
In J. Borbinha and T. Baker, editors, *Proceedings of the 4. European Conference on Research and Advanced Technologies for Digital Libraries (ECDL2000)*, number LNCS 1923 in Lecture Notes in Computer Science, pages 348–351, Lisboa, Portugal, September 18. - 20. 2000. Springer.
46. A. Rauber, J. Paralic, and E. Pampalk.
Empirical evaluation of clustering algorithms.
In M. Malekovic and A. Lorencic, editors, *Proceedings of the 11th International Conference on Information and Intelligent Systems (IIS'2000)*, Varazdin, Croatia, September 20. - 22. 2000. University of Zagreb.
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Providing topically sorted access to subsequently released newspaper editions or: How to build your private digital library.
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48. A. Rauber and H. Bina.
 "‘Andreas, Rauber’? Conference pages are over there, German documents on the lower left,..” - An "old-fashioned" approach to web search results visualization.
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49. E. Schweighofer, A. Rauber, and D. Merkl.
 Some remarks on vector representation of legal documents.
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53. A. Rauber and H. Bina.
 Visualizing electronic document repositories: Drawing books and papers in a digital library.
 In H. Arisawa and T. Catarci, editors, *Advances in Visual Database Systems: Proceedings of the IFIP TC2 WG2.6 5. Working Conference on Visual Database Systems*, pages 95 – 114, Fukuoka, Japan, May, 10.- 12. 2000. Kluwer Academic Publishers.
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56. D. Merkl and A. Rauber.
 Uncovering the hierarchical structure of text archives by using an unsupervised neural network with adaptive architecture.
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57. D. Merkl and A. Rauber.
 Automatic labeling of self-organizing maps for information retrieval.
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58. J. Paralic and A. Rauber.
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In I.J. Rudas and L. Madarasz, editors, *Proceedings of the 1999 IEEE International Conference on Intelligent Engineering Systems (INES'99)*, pages 311–315, Poprad, Slovakia, November 1. - 3 1999. ELFA.
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The SOMLib Digital Library System.
In S. Abiteboul and A.M. Vercoustre, editors, *Proceedings of the 3. European Conference on Research and Advanced Technology for Digital Libraries (ECDL99)*, number LNCS 1696 in Lecture Notes in Computer Science, pages 323–342, Paris, France, September 22. - 24. 1999. Springer.
60. A. Rauber and D. Merkl.
Mining text archives: Creating readable maps to structure and describe document collections.
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Book Chapters, Magazines, Edited Volumes, and other Contributions

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Die Bewahrung unserer Online-Kultur - Vorschläge zu Strategien der Webarchivierung.
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Serendipity in text and audio information spaces: Organizing and exploring high-dimensional data with the growing hierarchical self-organizing map.
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 Proceedings of the 5th Slovak-Austrian Student Workshop on Data Analysis.
 June 24-27 2004, Sliezsky dom, Slovak Republic. 137pp. Elfa Academic Press
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