

Complete Publication List of Kaspar Riesen

1. Publications in International Peer-Reviewed Scientific Journals

1. Mathias Fuchs, Kaspar Riesen:
A novel way to formalize stable graph cores by using matching-graphs.
Pattern Recognit. 131: 108846 (2022)
2. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Filters for graph-based keyword spotting in historical handwritten documents.
Pattern Recognit. Lett. 134: 125-134 (2020)
3. Kaspar Riesen, Miquel Ferrer, Horst Bunke:
Approximate Graph Edit Distance in Quadratic Time.
IEEE ACM Trans. Comput. Biol. Bioinform. 17(2): 483-494 (2020)
4. Kaspar Riesen, Roman Schmidt:
Online signature verification based on string edit distance.
Int. J. Document Anal. Recognit. 22(1): 41-54 (2019)
5. Narayan Schütz, Alexander B. Leichtle, Kaspar Riesen:
A comparative study of pattern recognition algorithms for predicting the inpatient mortality risk using routine laboratory measurements.
Artif. Intell. Rev. 52(4): 2559-2573 (2019)
6. Mohammad Reza Ameri, Michael Stauffer, Kaspar Riesen, Tien D. Bui, Andreas Fischer:
Graph-based keyword spotting in historical manuscripts using Hausdorff edit distance.
Pattern Recognit. Lett. 121: 61-67 (2019)
7. Paul Maergner, Vinaychandran Pondenkandath, Michele Alberti, Marcus Liwicki, Kaspar Riesen, Rolf Ingold, Andreas Fischer:
Combining graph edit distance and triplet networks for offline signature verification.
Pattern Recognit. Lett. 125: 527-533 (2019)
8. Kaspar Riesen, Andreas Fischer, Horst Bunke:
On the Impact of Using Utilities Rather than Costs for Graph Matching.
Neural Process. Lett. 48(2): 691-707 (2018)
9. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Keyword spotting in historical handwritten documents based on graph matching.
Pattern Recognit. 81: 240-253 (2018)
10. Kaspar Riesen, Thomas Hanne, Roman Schmidt:
Sketch-Based User Authentication With a Novel String Edit Distance Model.
IEEE Trans. Syst. Man Cybern. Syst. 48(3): 460-472 (2018)
11. Brian Kenji Iwana, Volkmar Frinken, Kaspar Riesen, Seiichi Uchida:
Efficient temporal pattern recognition by means of dissimilarity space embedding with discriminative prototypes.
Pattern Recognit. 64: 268-276 (2017)

12. Andreas Fischer, Kaspar Riesen, Horst Bunke:
Improved quadratic time approximation of graph edit distance by combining Hausdorff matching and greedy assignment.
Pattern Recognit. Lett. 87: 55-62 (2017)
13. Kaspar Riesen, Miquel Ferrer:
Predicting the correctness of node assignments in bipartite graph matching.
Pattern Recognit. Lett. 69: 8-14 (2016)
14. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Estimating Graph Edit Distance Using Lower and Upper Bounds of Bipartite Approximations.
Int. J. Pattern Recognit. Artif. Intell. 29(2): 1550011:1-1550011:27 (2015)
15. Andreas Fischer, Ching Y. Suen, Volkmar Frinken, Kaspar Riesen, Horst Bunke:
Approximation of graph edit distance based on Hausdorff matching.
Pattern Recognit. 48(2): 331-343 (2015)
16. Kaspar Riesen, Horst Bunke:
Improving bipartite graph edit distance approximation using various search strategies.
Pattern Recognit. 48(4): 1349-1363 (2015)
17. Miquel Ferrer, Francesc Serratosa, Kaspar Riesen:
Improving bipartite graph matching by assessing the assignment confidence.
Pattern Recognit. Lett. 65: 29-36 (2015)
18. Ehsan Zare Borzeshi, Massimo Piccardi, Kaspar Riesen, Horst Bunke:
Discriminative prototype selection methods for graph embedding.
Pattern Recognit. 46(6): 1648-1657 (2013)
19. Stefan Fankhauser, Kaspar Riesen, Horst Bunke, Peter J. Dickinson:
Suboptimal Graph Isomorphism using bipartite Matching.
Int. J. Pattern Recognit. Artif. Intell. 26(6) (2012)
20. Horst Bunke, Kaspar Riesen:
Towards the unification of structural and statistical pattern recognition.
Pattern Recognit. Lett. 33(7): 811-825 (2012)
21. Horst Bunke, Kaspar Riesen:
Recent advances in graph-based pattern recognition with applications in document analysis.
Pattern Recognit. 44(5): 1057-1067 (2011)
22. Horst Bunke, Kaspar Riesen:
Improving vector space embedding of graphs through feature selection algorithms.
Pattern Recognit. 44(9): 1928-1940 (2011)
23. Miquel Ferrer, Ernest Valveny, Francesc Serratosa, Kaspar Riesen, Horst Bunke:
Generalized median graph computation by means of graph embedding in vector spaces.
Pattern Recognit. 43(4): 1642-1655 (2010)

24. Kaspar Riesen, Horst Bunke:
Reducing the dimensionality of dissimilarity space embedding graph kernels.
Eng. Appl. Artif. Intell. 22(1): 48-56 (2009)
25. Kaspar Riesen, Horst Bunke:
Graph Classification Based on Vector Space Embedding.
Int. J. Pattern Recognit. Artif. Intell. 23(6): 1053-1081 (2009)
26. Kaspar Riesen, Horst Bunke:
Approximate graph edit distance computation by means of bipartite graph matching.
Image Vis. Comput. 27(7): 950-959 (2009)
27. Kaspar Riesen, Horst Bunke:
Graph Classification by Means of Lipschitz Embedding.
IEEE Trans. Syst. Man Cybern. Part B 39(6): 1472-1483 (2009)

2. Books/Monographs

1. Kaspar Riesen: Java in 14 Wochen.
Springer 2020, ISBN 978-3-658-30312-9, pp. 1-385
2. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Graph-Based Keyword Spotting.
Series in Machine Perception and Artificial Intelligence 86, WorldScientific 2019,
ISBN: 978-981-120-663-4, pp. 1-296
3. Kaspar Riesen:
Structural Pattern Recognition with Graph Edit Distance - Approximation Algorithms and Applications.
Advances in Computer Vision and Pattern Recognition, Springer 2015, ISBN 978-3-319-27251-1, pp. 3-156
4. Kaspar Riesen, Horst Bunke:
Graph Classification and Clustering Based on Vector Space Embedding.
Series in Machine Perception and Artificial Intelligence 77, WorldScientific 2010,
ISBN 978-981-4304-71-9, pp. 1-348

3. Contributions to Books

1. Michael Stauffer, Paul Maergner, Andreas Fischer, Kaspar Riesen:
A Survey of State of the Art Methods Employed in the Offline Signature Verification Process.
New Trends in Business Information Systems and Technology; Digital Innovation and Digital Business Transformation Edited By: R. Dornberger (2021)
2. Paul Maergner, Kaspar Riesen, Rolf Ingold, Andreas Fischer:
Signature verification via graph-based methods.
Handbook of Pattern Recognition and Computer Vision (6th Edition) Edited By: C. H. Chen (2020)

3. Kaspar Riesen, Horst Bunke:
Graph Edit Distance – Novel Approximation Algorithms.
Handbook of Pattern Recognition and Computer Vision (5th Edition) Edited By:
C. H. Chen (2016)
4. Kaspar Riesen, Xiaoyi Jiang, Horst Bunke:
Exact and Inexact Graph Matching: Methodology and Applications.
Managing and Mining Graph Data 2010: 217-247

4. Peer-Reviewed Conference Papers

1. Anthony Gillioz, Kaspar Riesen:
Graph Reduction Neural Networks for Structural Pattern Recognition.
S+SSPR 2022: 64-73
2. Anthony Gillioz, Kaspar Riesen:
Speeding up Graph Matching by Means of Systematic Graph Reductions Using
Centrality Measures.
ICPRS 2022: 1-7
3. Mathias Fuchs, Kaspar Riesen:
Graph Augmentation for Neural Networks Using Matching-Graphs.
ANNPR 2022: 3-15
4. Mathias Fuchs, Kaspar Riesen:
Augment Small Training Sets Using Matching-Graphs.
ICPRAI (2) 2022: 343-354
5. Anthony Gillioz, Kaspar Riesen:
Improving Graph Classification by Means of Linear Combinations of Reduced Graphs.
ICPRAM 2022: 17-23
6. Mathias Fuchs, Kaspar Riesen:
Iterative Creation of Matching-Graphs - Finding Relevant Substructures in Graph
Sets.
CIARP 2021: 382-391
7. Hans Friedrich Witschel, Kaspar Riesen, Loris Grether:
Natural Language-based User Guidance for Knowledge Graph Exploration: A User
Study.
KDIR 2021: 95-102
8. Mathias Fuchs, Kaspar Riesen:
Graph Embedding in Vector Spaces Using Matching-Graphs.
SISAP 2021: 352-363
9. Hans Friedrich Witschel, Kaspar Riesen, Loris Grether:
KvGR: A Graph-Based Interface for Explorative Sequential Question Answering on
Heterogeneous Information Sources.
ECIR (1) 2020: 760-773

10. Mathias Fuchs, Kaspar Riesen:
Matching of Matching-Graphs - A Novel Approach for Graph Classification.
ICPR 2020: 6570-6576
11. Kaspar Riesen, Hans Friedrich Witschel, Loris Grether:
A Novel Data Set for Information Retrieval on the Basis of Subgraph Matching.
S+SSPR 2020: 205-215
12. Michael Stauffer, Paul Maergner, Andreas Fischer, Kaspar Riesen:
Cross-Evaluation of Graph-Based Keyword Spotting in Handwritten Historical Documents.
GbrPR 2019: 45-55
13. Michael Stauffer, Paul Maergner, Andreas Fischer, Kaspar Riesen:
Graph Embedding for Offline Handwritten Signature Verification.
ICBEA 2019: 69-76
14. Michael Stauffer, Paul Maergner, Andreas Fischer, Rolf Ingold, Kaspar Riesen:
Offline Signature Verification using Structural Dynamic Time Warping.
ICDAR 2019: 1117-1124
15. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Graph-Based Keyword Spotting in Historical Documents Using Context-Aware Hausdorff Edit Distance.
DAS 2018: 49-54
16. Paul Maergner, Nicholas R. Howe, Kaspar Riesen, Rolf Ingold, Andreas Fischer:
Offline Signature Verification Via Structural Methods: Graph Edit Distance and Inkblood Models.
ICFHR 2018: 163-168
17. Paul Maergner, Vinaychandran Pondenkandath, Michele Alberti, Marcus Liwicki, Kaspar Riesen, Rolf Ingold, Andreas Fischer:
Offline Signature Verification by Combining Graph Edit Distance and Triplet Networks.
S+SSPR 2018: 470-480
18. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Speeding-Up Graph-Based Keyword Spotting by Quadtree Segmentations.
CAIP (1) 2017: 304-315
19. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Speeding-Up Graph-Based Keyword Spotting in Historical Handwritten Documents.
GbrPR 2017: 83-93
20. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Improved Graph Edit Distance Approximation with Simulated Annealing.
GbrPR 2017: 222-231
21. Michael Stauffer, Thomas Tschachtli, Andreas Fischer, Kaspar Riesen:
A Survey on Applications of Bipartite Graph Edit Distance.
GbrPR 2017: 242-252

22. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Ensembles for Graph-Based Keyword Spotting in Historical Handwritten Documents.
ICDAR 2017: 714-720
23. Paul Maergner, Kaspar Riesen, Rolf Ingold, Andreas Fischer:
A Structural Approach to Offline Signature Verification Using Graph Edit Distance.
ICDAR 2017: 1216-1222
24. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Approximation of Graph Edit Distance by Means of a Utility Matrix.
ANNPR 2016: 185-194
25. Xavier Cortés, Francesc Serratosa, Kaspar Riesen:
On the Relevance of Local Neighbourhoods for Greedy Graph Edit Distance.
S+SSPR 2016: 121-131
26. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
A Novel Graph Database for Handwritten Word Images.
S+SSPR 2016: 553-563
27. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Graph-Based Keyword Spotting in Historical Handwritten Documents.
S+SSPR 2016: 564-573
28. Kaspar Riesen, Miquel Ferrer, Andreas Fischer, Horst Bunke:
Approximation of Graph Edit Distance in Quadratic Time.
GbRPR 2015: 3-12
29. Miquel Ferrer, Francesc Serratosa, Kaspar Riesen:
A First Step Towards Exact Graph Edit Distance Using Bipartite Graph Matching.
GbRPR 2015: 77-86
30. Andreas Fischer, Seiichi Uchida, Volkmar Frinken, Kaspar Riesen, Horst Bunke:
Improving Hausdorff Edit Distance Using Structural Node Context.
GbRPR 2015: 148-157
31. Brian Kenji Iwana, Seiichi Uchida, Kaspar Riesen, Volkmar Frinken:
Tackling temporal pattern recognition by vector space embedding.
ICDAR 2015: 816-820
32. Hans Friedrich Witschel, Simon Loo, Kaspar Riesen:
How to Support Customer Segmentation with Useful Cluster Descriptions.
ICDM 2015: 17-31
33. Kaspar Riesen, Miquel Ferrer, Andreas Fischer:
Building Classifier Ensembles Using Greedy Graph Edit Distance.
MCS 2015: 125-134
34. Kaspar Riesen, Miquel Ferrer, Horst Bunke:
Suboptimal Graph Edit Distance Based on Sorted Local Assignments.
MCS 2015: 147-156

35. Kaspar Riesen, Miquel Ferrer, Rolf Dornberger, Horst Bunke:
Greedy Graph Edit Distance.
MLDM 2015: 3-16
36. Miquel Ferrer, Francesc Serratosa, Kaspar Riesen:
Learning Heuristics to Reduce the Overestimation of Bipartite Graph Edit Distance Approximation.
MLDM 2015: 17-31
37. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Combining Bipartite Graph Matching and Beam Search for Graph Edit Distance Approximation.
ANNPR 2014: 117-128
38. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Computing Upper and Lower Bounds of Graph Edit Distance in Cubic Time.
ANNPR 2014: 129-140
39. Kaspar Riesen, Rolf Dornberger, Horst Bunke:
Iterative Bipartite Graph Edit Distance Approximation.
Document Analysis Systems 2014: 61-65
40. Kaspar Riesen, Darko Brodic, Zoran N. Milivojevic, Cedomir A. Maluckov:
Graph Based Keyword Spotting in Medieval Slavic Documents - A Project Outline.
EuroMed 2014: 724-731
41. Kaspar Riesen, Horst Bunke:
Improving Approximate Graph Edit Distance by Means of a Greedy Swap Strategy.
ICISP 2014: 314-321
42. Kaspar Riesen, Horst Bunke, Andreas Fischer:
Improving Graph Edit Distance Approximation by Centrality Measures.
ICPR 2014: 3910-3914
43. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Improving Approximate Graph Edit Distance Using Genetic Algorithms.
S+SSPR 2014: 63-72
44. Benoit Gaüzère, Sébastien Bogleux, Kaspar Riesen, Luc Brun:
Approximate Graph Edit Distance Guided by Bipartite Matching of Bags of Walks.
S+SSPR 2014: 73-82
45. Andreas Fischer, Réjean Plamondon, Yvon Savaria, Kaspar Riesen, Horst Bunke:
A Hausdorff Heuristic for Efficient Computation of Graph Edit Distance.
S+SSPR 2014: 83-92
46. Kaspar Riesen, Sandro Emmenegger, Horst Bunke:
A Novel Software Toolkit for Graph Edit Distance Computation.
GbRPR 2013: 142-151
47. Andreas Fischer, Ching Y. Suen, Volkmar Frinken, Kaspar Riesen, Horst Bunke:
A Fast Matching Algorithm for Graph-Based Handwriting Recognition.
GbRPR 2013: 194-203

48. Stefan Fankhauser, Kaspar Riesen, Horst Bunke:
Speeding Up Graph Edit Distance Computation through Fast Bipartite Matching.
GbRPR 2011: 102-111
49. Andreas Fischer, Kaspar Riesen, Horst Bunke:
Graph Similarity Features for HMM-Based Handwriting Recognition in Historical Documents.
ICFHR 2010: 253-258
50. Jonas Richiardi, Dimitri Van De Ville, Kaspar Riesen, Horst Bunke:
Vector Space Embedding of Undirected Graphs with Fixed-cardinality Vertex Sequences for Classification.
ICPR 2010: 902-905
51. Kaspar Riesen, Horst Bunke:
Feature Ranking Algorithms for Improving Classification of Vector Space Embedded Graphs.
CAIP 2009: 377-384
52. Kaspar Riesen, Stefan Fankhauser, Horst Bunke, Peter J. Dickinson:
Efficient Suboptimal Graph Isomorphism.
GbRPR 2009: 124-133
53. Kaspar Riesen, Volkmar Frinken, Horst Bunke:
Improving Graph Classification by Isomap.
GbRPR 2009: 205-214
54. Kaspar Riesen, Horst Bunke:
Cluster Ensembles Based on Vector Space Embeddings of Graphs.
MCS 2009: 211-221
55. Kaspar Riesen, Horst Bunke:
Dissimilarity Based Vector Space Embedding of Graphs Using Prototype Reduction Schemes.
MLDM 2009: 617-631
56. Kaspar Riesen, Horst Bunke:
Kernel k-Means Clustering Applied to Vector Space Embeddings of Graphs.
ANNPR 2008: 24-35
57. Miquel Ferrer, Ernest Valveny, Francesc Serratosa, Kaspar Riesen, Horst Bunke:
An approximate algorithm for median graph computation using graph embedding.
ICPR 2008: 1-4
58. Andreas Fischer, Kaspar Riesen, Horst Bunke:
An experimental study of graph classification using prototype selection.
ICPR 2008: 1-4
59. Alexandra Brügger, Horst Bunke, Peter J. Dickinson, Kaspar Riesen:
Generalized Graph Matching for Data Mining and Information Retrieval.
ICDM 2008: 298-312
60. Kaspar Riesen, Horst Bunke:
On Lipschitz Embeddings of Graphs.
KES (1) 2008: 131-140

61. Horst Bunke, Kaspar Riesen:
Recent Developments in Graph Classification and Clustering using Graph Embedding Kernels.
PRIS 2008: 3-13
62. Kaspar Riesen, Horst Bunke:
Non-linear Transformations of Vector Space Embedded Graphs.
PRIS 2008: 173-183
63. Horst Bunke, Kaspar Riesen:
Graph Classification on Dissimilarity Space Embedding.
SSPR/SPR 2008: 2
64. Kaspar Riesen, Horst Bunke:
IAM Graph Database Repository for Graph Based Pattern Recognition and Machine Learning.
SSPR/SPR 2008: 287-297
65. Horst Bunke, Kaspar Riesen:
Graph Classification Based on Dissimilarity Space Embedding.
SSPR/SPR 2008: 996-1007
66. Horst Bunke, Kaspar Riesen:
A Family of Novel Graph Kernels for Structural Pattern Recognition.
CIARP 2007: 20-31
67. Kaspar Riesen, Michel Neuhaus, Horst Bunke:
Bipartite Graph Matching for Computing the Edit Distance of Graphs.
GbRPR 2007: 1-12
68. Kaspar Riesen, Michel Neuhaus, Horst Bunke:
Graph Embedding in Vector Spaces by Means of Prototype Selection.
GbRPR 2007: 383-393
69. Kaspar Riesen, Horst Bunke:
Structural Classifier Ensembles for Vector Space Embedded Graphs.
IJCNN 2007: 1500-1505
70. Kaspar Riesen, Horst Bunke:
Classifier Ensembles for Vector Space Embedding of Graphs.
MCS 2007: 220-230
71. Kaspar Riesen, Vivian Kilchherr, Horst Bunke:
Reducing the Dimensionality of Vector Space Embeddings of Graphs.
MLDM 2007: 563-573
72. Kaspar Riesen, Stefan Fankhauser, Horst Bunke:
Speeding Up Graph Edit Distance Computation with a Bipartite Heuristic.
MLG 2007
73. Michel Neuhaus, Kaspar Riesen, Horst Bunke:
Fast Suboptimal Algorithms for the Computation of Graph Edit Distance.
SSPR/SPR 2006: 163-172

5. Patents and Licenses

1. Kaspar Riesen, Roman Schmidt:
Method and apparatus for determining a similarity measure between drawings.
European Patent EP16161706.3 (2019)

6. Other Publications

1. histogram.ch:
Graph benchmark data sets for keyword spotting in historical documents.
2. IAM Graph Database:
Several standardized graph data sets for benchmarking covering a wide spectrum of different applications.