Complete Publication List of Kaspar Riesen

1. Publications in International Peer-Reviewed Scientific Journals

1. Anthony Gillioz, Kaspar Riesen:
Graph-based pattern recognition on spectral reduced graphs.
Pattern Recognit. 144: 109859 (2023)

2. Anthony Gillioz, Kaspar Riesen:
Building Multiple Classifier Systems Using Linear Combinations of Reduced Graphs.
SN Comput. Sci. 4(6): 743 (2023)

3. Mathias Fuchs, Kaspar Riesen:
A novel way to formalize stable graph cores by using matching-graphs.
Pattern Recognit. 131: 108846 (2022)

4. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Filters for graph-based keyword spotting in historical handwritten documents.
Pattern Recognit. Lett. 134: 125-134 (2020)

5. Kaspar Riesen, Miquel Ferrer, Horst Bunke:
Approximate Graph Edit Distance in Quadratic Time.
IEEE ACM Trans. Comput. Biol. Bioinform. 17(2): 483-494 (2020)

6. Kaspar Riesen, Roman Schmidt:
Online signature verification based on string edit distance.
Int. J. Document Anal. Recognit. 22(1): 41-54 (2019)

7. 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)

8. 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)

9. 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)

10. 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)

11. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Keyword spotting in historical handwritten documents based on graph matching.
Pattern Recognit. 81: 240-253 (2018)

12. 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)

13. 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)

14. 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)

15. Kaspar Riesen, Miquel Ferrer:
Predicting the correctness of node assignments in bipartite graph matching.
Pattern Recognit. Lett. 69: 8-14 (2016)

16. 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)

17. 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)

18. Kaspar Riesen, Horst Bunke:
Improving bipartite graph edit distance approximation using various search strategies.
Pattern Recognit. 48(4): 1349-1363 (2015)

19. Miquel Ferrer, Francesc Serratosa, Kaspar Riesen:
Improving bipartite graph matching by assessing the assignment confidence.
Pattern Recognit. Lett. 65: 29-36 (2015)

20. Ehsan Zare Borzeshi, Massimo Piccardi, Kaspar Riesen, Horst Bunke:
Discriminative prototype selection methods for graph embedding.
Pattern Recognit. 46(6): 1648-1657 (2013)

21. Stefan Fankhauser, Kaspar Riesen, Horst Bunke, Peter J. Dickinson:
Suboptimal Graph Isomorphism using bipartite Matching.
Int. J. Pattern Recognit. Artif. Intell. 26(6) (2012)

22. Horst Bunke, Kaspar Riesen:
Towards the unification of structural and statistical pattern recognition.
Pattern Recognit. Lett. 33(7): 811-825 (2012)

23. Horst Bunke, Kaspar Riesen:
Recent advances in graph-based pattern recognition with applications in document analysis.
Pattern Recognit. 44(5): 1057-1067 (2011)

24. Horst Bunke, Kaspar Riesen:
Improving vector space embedding of graphs through feature selection algorithms.
Pattern Recognit. 44(9): 1928-1940 (2011)

25. 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)

26. Kaspar Riesen, Horst Bunke:
Reducing the dimensionality of dissimilarity space embedding graph kernels.
Eng. Appl. Artif. Intell. 22(1): 48-56 (2009)

27. Kaspar Riesen, Horst Bunke:
Graph Classification Based on Vector Space Embedding.
Int. J. Pattern Recognit. Artif. Intell. 23(6): 1053-1081 (2009)

28. Kaspar Riesen, Horst Bunke:
Approximate graph edit distance computation by means of bipartite graph matching.
Image Vis. Comput. 27(7): 950-959 (2009)

29. 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. Linlin Jia, Xiao Ning, Benoit Gaüzère, Paul Honeine, Kaspar Riesen:
   Bridging Distinct Spaces in Graph-based Machine Learning.
   Accepted for publication in proceedings of ACPR 2023

2. Anthony Gillioz, Kaspar Riesen:
   Graph-Based vs. Vector-Based Classification: A Fair Comparison.
   GbRPR 2023: 25-34

3. Mathias Fuchs, Kaspar Riesen:
   Matching-Graphs for Building Classification Ensembles.
   GbRPR 2023: 102-112

4. Benjamin Fankhauser, Vidushi Bigler, Kaspar Riesen:
   Graph-Based Deep Learning on the Swiss River Network.
   GbRPR 2023: 172-181

5. Anthony Gillioz, Kaspar Riesen:
   Two-Step Graph Classification on the Basis of Hierarchical Graphs.
   ICPRAM 2023: 296-303

6. Corina Masanti, Hans Friedrich Witschel, Kaspar Riesen:
   Novel Benchmark Data Set for Automatic Error Detection and Correction.
   NLDB 2023: 511-521

7. Mathias Fuchs, Kaspar Riesen:
   Graph Augmentation for Neural Networks Using Matching-Graphs.
   ANNPR 2022: 3-15

8. Mathias Fuchs, Kaspar Riesen:
Augment Small Training Sets Using Matching-Graphs.
ICPRAI (2) 2022: 343-354

9. Anthony Gillioz, Kaspar Riesen:
Improving Graph Classification by Means of Linear Combinations of Reduced Graphs.
ICPRAM 2022: 17-23

10. Anthony Gillioz, Kaspar Riesen:
Graph Reduction Neural Networks for Structural Pattern Recognition.
S+SSPR 2022: 64-73

11. Anthony Gillioz, Kaspar Riesen:
Speeding up Graph Matching by Means of Systematic Graph Reductions Using Centrality Measures.
ICPRS 2022: 1-7

12. Mathias Fuchs, Kaspar Riesen:
Iterative Creation of Matching-Graphs - Finding Relevant Substructures in Graph Sets.
CIARP 2021: 382-391

13. Hans Friedrich Witschel, Kaspar Riesen, Loris Grether:
Natural Language-based User Guidance for Knowledge Graph Exploration: A User Study.
KDIR 2021: 95-102

14. Mathias Fuchs, Kaspar Riesen:
Graph Embedding in Vector Spaces Using Matching-Graphs.
SISAP 2021: 352-363

15. 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

16. Mathias Fuchs, Kaspar Riesen:
Matching of Matching-Graphs - A Novel Approach for Graph Classification.
ICPR 2020: 6570-6576

17. 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

18. Michael Stauffer, Paul Maergner, Andreas Fischer, Kaspar Riesen:
Cross-Evaluation of Graph-Based Keyword Spotting in Handwritten Historical Documents.
GbRPR 2019: 45-55

19. Michael Stauffer, Paul Maergner, Andreas Fischer, Kaspar Riesen:
Graph Embedding for Offline Handwritten Signature Verification.
ICBEA 2019: 69-76

20. Michael Stauffer, Paul Maergner, Andreas Fischer, Rolf Ingold, Kaspar Riesen:
Offline Signature Verification using Structural Dynamic Time Warping.
ICDAR 2019: 1117-1124

21. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Graph-Based Keyword Spotting in Historical Documents Using Context-Aware Hausdorff Edit Distance.
DAS 2018: 49-54

22. Paul Maergner, Nicholas R. Howe, Kaspar Riesen, Rolf Ingold, Andreas Fischer:
Offline Signature Verification Via Structural Methods: Graph Edit Distance and Inkball Models.
ICFHR 2018: 163-168

23. 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

24. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Speeding-Up Graph-Based Keyword Spotting by Quadtree Segmentations.
CAIP (1) 2017: 304-315

25. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Speeding-Up Graph-Based Keyword Spotting in Historical Handwritten Documents.
GbRPR 2017: 83-93

26. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Improved Graph Edit Distance Approximation with Simulated Annealing.
GbRPR 2017: 222-231

27. Michael Stauffer, Thomas Tschachtli, Andreas Fischer, Kaspar Riesen:
A Survey on Applications of Bipartite Graph Edit Distance.
GbRPR 2017: 242-252

28. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Ensembles for Graph-Based Keyword Spotting in Historical Handwritten Documents.
ICDAR 2017: 714-720

29. Paul Maergner, Kaspar Riesen, Rolf Ingold, Andreas Fischer:
A Structural Approach to Offline Signature Verification Using Graph Edit Distance.
ICDAR 2017: 1216-1222

30. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Approximation of Graph Edit Distance by Means of a Utility Matrix.
ANNPR 2016: 185-194

31. Xavier Cortés, Francesc Serratosa, Kaspar Riesen:
On the Relevance of Local Neighbourhoods for Greedy Graph Edit Distance.
S+SSPR 2016: 121-131

32. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
A Novel Graph Database for Handwritten Word Images.
S+SSPR 2016: 553-563

33. Michael Stauffer, Andreas Fischer, Kaspar Riesen:
Graph-Based Keyword Spotting in Historical Handwritten Documents.
S+SSPR 2016: 564-573

34. Kaspar Riesen, Miquel Ferrer, Andreas Fischer, Horst Bunke:
Approximation of Graph Edit Distance in Quadratic Time.
GbRPR 2015: 3-12

35. Miquel Ferrer, Francesc Serratosa, Kaspar Riesen:
A First Step Towards Exact Graph Edit Distance Using Bipartite Graph Matching.
GbRPR 2015: 77-86

36. Andreas Fischer, Seiichi Uchida, Volkmar Frinken, Kaspar Riesen, Horst Bunke:
Improving Hausdorff Edit Distance Using Structural Node Context.
GbRPR 2015: 148-157

37. Brian Kenji Iwana, Seiichi Uchida, Kaspar Riesen, Volkmar Frinken:
Tackling temporal pattern recognition by vector space embedding.
ICDAR 2015: 816-820

38. Hans Friedrich Witschel, Simon Loo, Kaspar Riesen:
How to Support Customer Segmentation with Useful Cluster Descriptions.
ICDM 2015: 17-31

39. Kaspar Riesen, Miquel Ferrer, Andreas Fischer:
Building Classifier Ensembles Using Greedy Graph Edit Distance.
MCS 2015: 125-134

40. Kaspar Riesen, Miquel Ferrer, Horst Bunke:
Suboptimal Graph Edit Distance Based on Sorted Local Assignments.
MCS 2015: 147-156

41. Kaspar Riesen, Miquel Ferrer, Rolf Dornberger, Horst Bunke:
Greedy Graph Edit Distance.
MLDM 2015: 3-16

42. Miquel Ferrer, Francesc Serratosa, Kaspar Riesen:
Learning Heuristics to Reduce the Overestimation of Bipartite Graph Edit Distance Approximation.
MLDM 2015: 17-31

43. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Combining Bipartite Graph Matching and Beam Search for Graph Edit Distance Approximation.
ANNPR 2014: 117-128

44. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Computing Upper and Lower Bounds of Graph Edit Distance in Cubic Time.
ANNPR 2014: 129-140

45. Kaspar Riesen, Rolf Dornberger, Horst Bunke:
Iterative Bipartite Graph Edit Distance Approximation.
Document Analysis Systems 2014: 61-65

46. 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

47. Kaspar Riesen, Horst Bunke:
Improving Approximate Graph Edit Distance by Means of a Greedy Swap Strategy.
ICISP 2014: 314-321

48. Kaspar Riesen, Horst Bunke, Andreas Fischer:
Improving Graph Edit Distance Approximation by Centrality Measures.
ICPR 2014: 3910-3914

49. Kaspar Riesen, Andreas Fischer, Horst Bunke:
Improving Approximate Graph Edit Distance Using Genetic Algorithms.
S+SSPR 2014: 63-72

50. Benoit Gaüzère, Sébastien Bougleux, Kaspar Riesen, Luc Brun:
Approximate Graph Edit Distance Guided by Bipartite Matching of Bags of Walks.
S+SSPR 2014: 73-82

51. 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

52. Kaspar Riesen, Sandro Emmenegger, Horst Bunke:
A Novel Software Toolkit for Graph Edit Distance Computation.
GbRPR 2013: 142-151

53. Andreas Fischer, Ching Y. Suen, Volkmar Frinken, Kaspar Riesen, Horst Bunke:
A Fast Matching Algorithm for Graph-Based Handwriting Recognition.
GbRPR 2013: 194-203

54. Stefan Fankhauser, Kaspar Riesen, Horst Bunke:
Speeding Up Graph Edit Distance Computation through Fast Bipartite Matching.
GbRPR 2011: 102-111

55. Andreas Fischer, Kaspar Riesen, Horst Bunke:
Graph Similarity Features for HMM-Based Handwriting Recognition in Historical Documents.
ICFHR 2010: 253-258

56. 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

57. Kaspar Riesen, Horst Bunke:
Feature Ranking Algorithms for Improving Classification of Vector Space Embedded Graphs.
CAIP 2009: 377-384

58. Kaspar Riesen, Stefan Fankhauser, Horst Bunke, Peter J. Dickinson:
Efficient Suboptimal Graph Isomorphism.
GbRPR 2009: 124-133

59. Kaspar Riesen, Volkmar Frinken, Horst Bunke:
Improving Graph Classification by Isomap.
GbRPR 2009: 205-214

60. Kaspar Riesen, Horst Bunke:
Cluster Ensembles Based on Vector Space Embeddings of Graphs.
MCS 2009: 211-221

61. Kaspar Riesen, Horst Bunke:
Dissimilarity Based Vector Space Embedding of Graphs Using Prototype Reduction Schemes.
MLDM 2009: 617-631

62. Kaspar Riesen, Horst Bunke:
Kernel k-Means Clustering Applied to Vector Space Embeddings of Graphs.
ANNPR 2008: 24-35

63. Miquel Ferrer, Ernest Valveny, Francesc Serratosa, Kaspar Riesen, Horst Bunke:
An approximate algorithm for median graph computation using graph embedding.
ICPR 2008: 1-4

64. Andreas Fischer, Kaspar Riesen, Horst Bunke:
An experimental study of graph classification using prototype selection.
ICPR 2008: 1-4

65. Alexandra Brügger, Horst Bunke, Peter J. Dickinson, Kaspar Riesen:
Generalized Graph Matching for Data Mining and Information Retrieval.
ICDM 2008: 298-312

66. Kaspar Riesen, Horst Bunke:
On Lipschitz Embeddings of Graphs.
KES (1) 2008: 131-140

67. Horst Bunke, Kaspar Riesen:
Recent Developments in Graph Classification and Clustering using Graph Embedding Kernels.
PRIS 2008: 3-13

68. Kaspar Riesen, Horst Bunke:
Non-linear Transformations of Vector Space Embedded Graphs.
PRIS 2008: 173-183

69. Horst Bunke, Kaspar Riesen:
Graph Classification on Dissimilarity Space Embedding.
SSPR/SPR 2008: 2

70. Kaspar Riesen, Horst Bunke:
IAM Graph Database Repository for Graph Based Pattern Recognition and Machine Learning.
SSPR/SPR 2008: 287-297

71. Horst Bunke, Kaspar Riesen:
Graph Classification Based on Dissimilarity Space Embedding.
SSPR/SPR 2008: 996-1007

72. Horst Bunke, Kaspar Riesen:
A Family of Novel Graph Kernels for Structural Pattern Recognition.
CIARP 2007: 20-31

73. Kaspar Riesen, Michel Neuhaus, Horst Bunke:
Bipartite Graph Matching for Computing the Edit Distance of Graphs.
GbRPR 2007: 1-12

74. Kaspar Riesen, Michel Neuhaus, Horst Bunke:
Graph Embedding in Vector Spaces by Means of Prototype Selection.
GbRPR 2007: 383-393

75. Kaspar Riesen, Horst Bunke:
Structural Classifier Ensembles for Vector Space Embedded Graphs.
IJCNN 2007: 1500-1505

76. Kaspar Riesen, Horst Bunke:
Classifier Ensembles for Vector Space Embedding of Graphs.
MCS 2007: 220-230

77. Kaspar Riesen, Vivian Kilchherr, Horst Bunke:
Reducing the Dimensionality of Vector Space Embeddings of Graphs.
MLDM 2007: 563-573

78. Kaspar Riesen, Stefan Fankhauser, Horst Bunke:
Speeding Up Graph Edit Distance Computation with a Bipartite Heuristic.
MLG 2007

79. 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. histograph.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.