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Selected Scholarly Contributions [Data Provided by SCOPUS]

Siriwardana, J., Jayasekara, S., Halgamuge, S.K.

[Potential of air-side economizers for data center cooling: A case study for key Australian cities](#)

(2013) Applied Energy, 104, pp. 207-219.

Muñoz, M.A., Kirley, M., Halgamuge, S.K.

[The algorithm selection problem on the continuous optimization domain](#)

(2013) Studies in Computational Intelligence, 445, pp. 75-89.

Siriwardana, J., Halgamuge, S.K.

[Fast shortest path optimization inspired by shuttle streaming of Physarum polycephalum](#)

(2012) 2012 IEEE Congress on Evolutionary Computation, CEC 2012, art. no. 6252956, .

Muñoz, M.A., Kirley, M., Halgamuge, S.K.

[Landscape characterization of numerical optimization problems using biased scattered data](#)

(2012) 2012 IEEE Congress on Evolutionary Computation, CEC 2012, art. no. 6256490, .

Muñoz, M.A., Kirley, M., Halgamuge, S.K.

[A meta-learning prediction model of algorithm performance for continuous optimization problems](#)

(2012) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 7491 LNCS (PART 1), pp. 226-235.

Steer, K.C.B., Wirth, A., Halgamuge, S.K.

[Decision tree ensembles for online operation of large smart grids](#)

(2012) Energy Conversion and Management, 59, pp. 9-18.

Saeed, I., Tang, S.-L., Halgamuge, S.K.

[Unsupervised discovery of microbial population structure within metagenomes using nucleotide base composition](#)

(2012) Nucleic Acids Research, 40 (5), pp. e34.

Maheswararajah, S., Halgamuge, S.K., Dassanayake, K.B., Chapman, D.

[Management of orphaned-nodes in wireless sensor networks for smart irrigation systems](#)

(2011) IEEE Transactions on Signal Processing, 59 (10), art. no. 5910414, pp. 4909-4922.

Lau, D., Oetomo, D., Halgamuge, S.K.

[Wrench-closure workspace generation for cable driven parallel manipulators using a hybrid analytical-numerical approach](#)

(2011) Journal of Mechanical Design, Transactions of the ASME, 133 (7), art. no. 071004, .

Senaratne, R., Jap, B., Lal, S., Hsu, A., Halgamuge, S., Fischer, P.

[Comparing two video-based techniques for driver fatigue detection: Classification versus optical flow approach](#)

(2011) Machine Vision and Applications, 22 (4), pp. 597-618.

Steer, K.C.B., Wirth, A., Halgamuge, S.K.

[Control period selection for improved operating performance in district heating networks](#)

(2011) Energy and Buildings, 43 (2-3), pp. 605-613.

Muñoz, M.A., Halgamuge, S.K., Alfonso, W., Caicedo, E.F.

Simplifying the bacteria foraging optimization algorithm

(2010) 2010 IEEE World Congress on Computational Intelligence, WCCI 2010 - 2010 IEEE Congress on Evolutionary Computation, CEC 2010, art. no. 5586025, .

Lau, D., Hawke, T., Kempton, L., Oetomo, D., Halgamuge, S.

Design and analysis of 4-DOF cable-driven parallel mechanism

(2010) Proceedings of the 2010 Australasian Conference on Robotics and Automation, ACRA 2010, .

Tang, S.-L., Chang, B.C.H., Halgamuge, S.K.

Gene functionality's influence on the second codon: A large-scale survey of second codon composition in three domains

(2010) Genomics, 96 (2), pp. 92-101.

Adhikari, S., Halgamuge, S.K., Watson, H.C.

An online power-balancing strategy for a parallel hybrid electric vehicle assisted by an integrated starter generator

(2010) IEEE Transactions on Vehicular Technology, 59 (6), art. no. 5471232, pp. 2689-2699.

Song, X., Halgamuge, S.K., Chen, D., Hu, S., Jiang, B.

The optimized support vector machine with correlative features for classification of natural spearmint essence

(2010) International Journal of Innovative Computing, Information and Control, 6 (3), pp. 1089-1099.

Karim, M.A., Samaranayake, P., Smith, A.J.R., Halgamuge, S.K.

An on-time delivery improvement model for manufacturing organisations

(2010) International Journal of Production Research, 48 (8), pp. 2373-2394.

Siriwardana, J., Schott, W., Halgamuge, S.

[The power grabbers: Making data centers energy efficient](#)

(2010) IEEE Power and Energy Magazine, 8 (1), art. no. 5357334, pp. 46-53.

Saeed, I., Halgamuge, S.K.

[The oligonucleotide frequency derived error gradient and its application to the binning of metagenome fragments](#)

(2009) BMC Genomics, 10 (SUPPL. 3), art. no. S10, .

Chan, C.-K.K., Halgamuge, S.

[A new generalized growth threshold for dynamic SOM for comparing average mutual information and oligonucleotide frequency as a species signature](#)

(2009) International Journal of Bio-Science and Bio-Technology, 1 (1), pp. 1-10.

Chan, C.-K.K., Halgamuge, S.

[Investigation of average mutual information for species separation using GSOM](#)

(2009) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5899 LNCS, pp. 42-49.

Rattasiri, W., Halgamuge, S.K., Wickramarachchi, N.

[Structure adaptation of hierarchical knowledge-based classifiers](#)

(2009) Neural Computing and Applications, 18 (6), pp. 523-537.

Maheswararajah, S., Guru, S.M., Shu, Y., Halgamuge, S.

[Energy adaptive sensor scheduling for noisy sensor measurements](#)

(2009) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5516 LNCS, pp. 187-200.

Senaratne, R., Halgamuge, S., Hsu, A.

[Face recognition by extending elastic bunch graph matching with particle swarm optimization](#)

(2009) Journal of Multimedia, 4 (4), pp. 204-214.

Steer, K.C.B., Wirth, A., Halgamuge, S.K.

[The rationale behind seeking inspiration from nature](#)

(2009) Studies in Computational Intelligence, 193, pp. 51-76.

Hsu, A.L., Saeed, I., Halgamuge, S.K.

[Dynamic self-organising maps: Theory, methods and applications](#)

(2009) Studies in Computational Intelligence, 201, pp. 363-379.

Maheswararajah, S., Halgamuge, S.K., Premaratne, M.

[Sensor scheduling for target tracking by suboptimal algorithms](#)

(2009) IEEE Transactions on Vehicular Technology, 58 (3), pp. 1467-1479.

Maheswararajah, S., Halgamuge, S., Premaratne, M.

[Energy efficient sensor scheduling with a mobile sink node for the target tracking application](#)

(2009) Sensors, 9 (2), pp. 696-716.

Baten, A.K.M.A., Halgamuge, S.K., Chang, B.C.H.

[Fast splice site detection using information content and feature reduction](#)

(2008) BMC Bioinformatics, 9 (SUPPL. 12), art. no. S8, .

Xiao-Feng, S., Halgamuge, S.K., De-Zhao, C., Shang-Xu, H.

[Support vector machine integrated CCA for classification of complex chemical patterns](#)

(2008) Proceedings of the 2008 2nd International Conference on Future Generation Communication and Networking, FGCN 2008 and BSBT 2008: 2008 International Conference on Bio-Science and Bio-Technology, 3, art. no. 4734272, pp. 21-23.

Steer, K.C.B., Wirth, A., Halgamuge, S.K.

[Information theoretic classification of problems for metaheuristics](#)

(2008) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5361 LNAI, pp. 319-328.

Hsu, A., Halgamuge, S.K.

[Class structure visualization with semi-supervised growing self-organizing maps](#)

(2008) Neurocomputing, 71 (16-18), pp. 3124-3130.

Karim, M.A., Smith, A.J.R., Halgamuge, S.

[Empirical relationships between some manufacturing practices and performance](#)

(2008) International Journal of Production Research, 46 (13), pp. 3583-3613.

Li, J., Halgamuge, S.K., Tang, S.-L.

[Genome classification by gene distribution: An overlapping subspace clustering approach](#)

(2008) BMC Evolutionary Biology, 8 (1), art. no. 116, .

Chan, C.-K.K., Hsu, A.L., Halgamuge, S.K., Tang, S.-L.

[Binning sequences using very sparse labels within a metagenome](#)

(2008) BMC Bioinformatics, 9, art. no. 215, .

Karim, M.A., Smith, A.J.R., Halgamuge, S.K., Islam, M.M.

A comparative study of manufacturing practices and performance variables

(2008) International Journal of Production Economics, 112 (2), pp. 841-859.

Chan, C.-K.K., Hsu, A.L., Tang, S.-L., Halgamuge, S.K.

Using growing self-organising maps to improve the binning process in environmental whole-genome shotgun sequencing

(2008) Journal of Biomedicine and Biotechnology, 2008 (1), art. no. 513701, .

Saad, R., Halgamuge, S.K., Li, J.

Polynomial kernel adaptation and extensions to the SVM classifier learning

(2008) Neural Computing and Applications, 17 (1), pp. 19-25.

Rattasiri, W., Wickramarachchi, N., Halgamuge, S.K.

Sensitivity-based hierarchical controller architectures for active suspension

(2008) IEEE Transactions on Control Systems Technology, 16 (1), pp. 103-112.

Baten, A.K.M.A., Halgamuge, S.K., Chang, B., Wickramarachchi, N.

Biological sequence data preprocessing for classification: A case study in splice site identification

(2007) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 4492 LNCS (PART 2), pp. 1221-1230.

Senaratne, R., Hardy, D., Vanderaa, B., Halgamuge, S.

Driver fatigue detection by fusing multiple cues

(2007) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 4492 LNCS (PART 2), pp. 801-809.

Chan, C.-K.K., Hsu, A.L., Tang, S.-L., Halgamuge, S.K.

[A method for evaluating quality of clustering DNA fragments encoded in different nucleotide frequencies](#)

(2007) Proceedings of the Frontiers in the Convergence of Bioscience and Information Technologies, FBIT 2007, art. no. 4524080, pp. 60-63.

Guru, S.M., Steinbrecher, M., Halgamuge, S., Kruse, R.

[Multiple cluster merging and multihop transmission in wireless sensor networks](#)

(2007) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 4459 LNCS, pp. 89-99.

Zhai, Y., Hsu, A., Halgamuge, S.K.

[Combining news and technical indicators in daily stock price trends prediction](#)

(2007) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 4493 LNCS (PART 3), pp. 1087-1096.

Li, J., Halgamuge, S.K.

[Improving training speed of Support Vector Machines by creating exploitable trends of Lagrangian variables: An application to DNA splice site detection](#)

(2007) Proceedings of the Frontiers in the Convergence of Bioscience and Information Technologies, FBIT 2007, art. no. 4524109, pp. 230-233.

Saeed, I., Wang, A., Senaratne, R., Halgamuge, S.

[Using the active appearance model to detect driver fatigue](#)

(2007) Proceedings of the 2007 3rd International Conference on Information and Automation for Sustainability, ICIAFS, art. no. 4544792, pp. 124-128.

Howard, D., Rhee, P.K., Halgamuge, S., Yoo, S.-J.

[Message from the conference chairs](#)

(2007) Proceedings of the Frontiers in the Convergence of Bioscience and Information Technologies, FBIT 2007, art. no. 4524067, pp. xvi-xvii.

Maheswararajah, S., Halgamuge, S.

[Mobile sensor management for target tracking](#)

(2007) 2007 2nd International Symposium on Wireless Pervasive Computing, art. no. 4147115, pp. 506-510.

Premaratne, M., Halgamuge, S.K.

[Rigorous analysis of numerical phase and group velocity bounds in Yee's FDTD grid](#)

(2007) IEEE Microwave and Wireless Components Letters, 17 (8), pp. 556-558.

Rattasiri, W., Wickramarachchi, N., Halgamuge, S.K.

[An optimized anti-lock braking system in the presence of multiple road surface types](#)

(2007) International Journal of Adaptive Control and Signal Processing, 21 (6), pp. 477-498.

Baten, A.K.M.A., Chang, B.C.H., Halgamuge, S.K., Li, J.

[Erratum: Splice site identification using probabilistic parameters and SVM classification \(BMC Bioinformatics\)](#)

(2007) BMC Bioinformatics, 8, art. no. 241, .

Russ, G., Kruse, R., Karim, M.A., Hsu, A.L., Halgamuge, S., Smith, A.J., Islam, A.

[Detection of faulty semiconductor wafers using dynamic growing self organizing map](#)

(2007) IEEE Region 10 Annual International Conference, Proceedings/TENCON, 2007, art. no. 4085264, .

Senaratne, R., Halgamuge, S.

[Using particle swarm optimisation for elastic bunch graph matching to recognise faces](#)

(2007) IEEE Region 10 Annual International Conference, Proceedings/TENCON, 2007, art. no. 4085252, .

Li, J., Halgamuge, S.K., Kells, C.I., Tang, S.-L.

[Gene function prediction based on genomic context clustering and discriminative learning: An application to bacteriophages](#)

(2007) BMC Bioinformatics, 8 (SUPPL. 4), art. no. S6, .

Manzie, C., Watson, H., Halgamuge, S.

[Fuel economy improvements for urban driving: Hybrid vs. intelligent vehicles](#)

(2007) Transportation Research Part C: Emerging Technologies, 15 (1), pp. 1-16.

Koncar, A., Janßen, H., Halgamuge, S.

[Gabor wavelet similarity maps for optimising hierarchical road sign classifiers](#)

(2007) Pattern Recognition Letters, 28 (2), pp. 260-267.

Baten, A.K.M.A., Chang, B.C.H., Halgamuge, S.K., Li, J.

[Splice site identification using probabilistic parameters and SVM classification](#)

(2006) BMC Bioinformatics, 7 (SUPPL.5), art. no. S15, .

Maheswararajah, S., Halgamuge, S.

[Sensor scheduling for target tracking using particle swarm optimization](#)

(2006) IEEE Vehicular Technology Conference, 2, art. no. 1682889, pp. 573-577.

Senaratne, R.S., Halgamuge, S.K.

Optimal weighting of landmarks for face recognition

(2006) Journal of Multimedia, 1 (3), pp. 31-41.

Menais, C., Guru, S.M., Halgamuge, S., Fernando, S.

Optimized sink node path using particle swarm optimization

(2006) Proceedings - International Conference on Advanced Information Networking and Applications, AINA, 2, art. no. 1620410, pp. 388-392.

Senaratne, R., Halgamuge, S.

Optimised Landmark Model Matching for face recognition

(2006) FGR 2006: Proceedings of the 7th International Conference on Automatic Face and Gesture Recognition, 2006, art. no. 1613008, pp. 120-125.

Zhai, Y.Z., Hsu, A., Halgamuge, S.K.

Scalable dynamic self-organising maps for mining massive textual data

(2006) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 4234 LNCS - III, pp. 260-267.

Karim, M.A., Halgamuge, S., Smith, A.J.R., Hsu, A.L.

Manufacturing yield improvement by clustering

(2006) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 4234 LNCS - III, pp. 526-534.

Hsu, A., Halgamuge, S.K.

Semi-supervised learning of dynamic self-organising maps

(2006) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 4232 LNCS, pp. 915-924.

Chang, B., Halgamuge, S., Tang, S.-L.

Analysis of SD sequences in completed microbial genomes: Non-SD-led genes are as common as SD-led genes

(2006) Gene, 373 (1-2), pp. 90-99.

Manzie, C., Watson, H.C., Halgamuge, S., Lim, K.

A comparison of fuel consumption between hybrid and intelligent vehicles during urban driving

(2006) Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 220 (1), pp. 67-76.

Manzie, C., Watson, H.C., Halgamuge, S.K., Lim, K.

On the potential for improving fuel economy using a traffic flow sensor network

(2005) Proceedings - 2005 International Conference on Intelligent Sensing and Information Processing, ICISIP'05, 2005, art. no. 1529417, pp. 38-43.

Guru, S.M., Halgamuge, S.K., Fernando, S.

Particle Swarm Optimisers for cluster formation in wireless sensor networks

(2005) Proceedings of the 2005 Intelligent Sensors, Sensor Networks and Information Processing Conference, 2005, art. no. 1595599, pp. 319-324.

Patchararungruang, S., Halgamuge, S.K., Shenoy, N.

[Optimized rule-based delay proportion adjustment for proportional differentiated services](#)

(2005) IEEE Journal on Selected Areas in Communications, 23 (2), pp. 261-276.

Saad, R., Halgamuge, S.K.

[Stability of hierarchical fuzzy systems generated by Neuro-Fuzzy](#)

(2004) Soft Computing, 8 (6), pp. 409-416.

Guru, S.M., Hsu, A., Halgamuge, S., Fernando, S.

[Clustering sensor networks using growing self-organising map](#)

(2004) Proceedings of the 2004 Intelligent Sensors, Sensor Networks and Information Processing Conference, ISSNIP '04, pp. 91-96.

Coath, G., Al-Dabbagh, M., Halgamuge, S.K.

[Particle swarm optimisation for reactive power and voltage control with grid-integrated wind farms](#)

(2004) 2004 IEEE Power Engineering Society General Meeting, 1, pp. 303-308.

Guru, S.M., Fernando, S., Halgamuge, S., Chan, K.

[Intelligent fastening with A-BOLT™ technology and sensor networks](#)

(2004) Assembly Automation, 24 (4), pp. 386-393.

Ratnaweera, A., Halgamuge, S.K., Watson, H.C.

[Self-organizing hierarchical particle swarm optimizer with time-varying acceleration coefficients](#)

(2004) IEEE Transactions on Evolutionary Computation, 8 (3), pp. 240-255.

Chang, B.C.H., Ratnaweera, A., Halgamuge, S.K., Watson, H.C.

Particle swarm optimisation for protein Motif discovery

(2004) Genetic Programming and Evolvable Machines, 5 (2), pp. 203-214.

Li, J., Cheung, K.H., Rattasiri, W., Halgamuge, S.K.

Self-Generating Hierarchical Fuzzy Systems

(2004) Proceedings of International Conference on Intelligent Sensing and Information Processing, ICISIP 2004, pp. 348-353.

Hsu, A.L., Tang, S.-L., Halgamuge, S.K.

An unsupervised hierarchical dynamic self-organizing approach to cancer class discovery and marker gene identification in microarray data

(2003) Bioinformatics, 19 (16), pp. 2131-2140.

Halgamuge, S.K.

Realtime classification with structure adapting neuro-fuzzy systems

(2003) Integrated Computer-Aided Engineering, 10 (4), pp. 357-367.

Rattasiri, W., Halgamuge, S.K.

Computationally advantageous and stable hierarchical fuzzy systems for active suspension

(2003) IEEE Transactions on Industrial Electronics, 50 (1), pp. 48-61.

Chang, B.C.H., Halgamuge, S.K.

Approximate symbolic pattern matching for protein sequence data

(2003) International Journal of Approximate Reasoning, 32 (2-3), pp. 171-186.

Hsu, A.L., Halgamuge, S.K.

[Enhancement of topology preservation and hierarchical dynamic self-organising maps for data visualisation](#)

(2003) International Journal of Approximate Reasoning, 32 (2-3), pp. 259-279.

Patchararungruang, S., Shenoy, N., Halgamuge, S.K.

[Rule based delay proportion adjustment for differentiated services](#)

(2002) IEEE International Conference on Fuzzy Systems, 1, pp. 700-704.

Saad, R., Halgamuge, S.

[Automatically tuned hybrid motion controller in the presence of mechanical non-linearities](#)

(2002) IEEE International Symposium on Intelligent Control - Proceedings, pp. 200-205.

Chang, B.C.H., Halgamuge, S.K.

[Protein motif extraction with neuro-fuzzy optimization](#)

(2002) Bioinformatics, 18 (8), pp. 1084-1090.

Chang, B.C.H., Halgamuge, S.K.

[Fuzzy sequence pattern matching in zinc finger domain proteins](#)

(2001) Annual Conference of the North American Fuzzy Information Processing Society - NAFIPS, 2, pp. 1116-1120.

Hsu, A.L., Halgamuge, S.K.

[Enhanced topology preservation of dynamic self-organising maps for data visualisation](#)

(2001) Annual Conference of the North American Fuzzy Information Processing Society - NAFIPS, 3, pp. 1786-1791.

Saad, Ramy, Halgamuge, Saman K.

[Dynamic hierarchical fuzzy systems: Analysis and design using a state space model](#)

(2000) Annual Conference of the North American Fuzzy Information Processing Society - NAFIPS, pp. 373-377.