

Martin Russell
Publication List

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Journal

1. H. R. Sharifzadeh, I. V. McLoughlin, M. J. Russell, "A Comprehensive Vowel Space for Whispered Speech", *accepted for publication in Journal of Voice, 2011* ([PDF \(draft\)](#))
2. Abualsoud Hanani, Michael J. Carey and Martin J. Russell, "Speech Spectral and Pattern Analysis Using Multi-core Processors", *submitted to IET Signal Proc. 2010* ([PDF\(draft\)](#))
3. S M D'Arcy, M J Russell and S R Browning, "An analysis of vowels in the Accents of the British Isles (ABI) speech corpus", *to be submitted to Computer Speech and Language*
4. N J Cooke and M J Russell, "Gaze-contingent automatic speech recognition", *IET Signal Proc.*, 2, (4), pp 369-380, December 2008 ([PDF](#))
5. M J Russell, S. D'Arcy and Li Qun, "The effects of bandwidth reduction on human and computer recognition of children's speech", *IEEE Signal Processing Letters*, Vol. 14, Number 12, pp 1044-1046, December 2007 ([PDF](#))
6. M J Russell, X Zheng and P J B Jackson, "Modelling speech signals using formant frequencies as an intermediate representation", *IET Signal Proc.*, 1, (1), pp 43-50, March 2007 ([PDF](#))
7. M. J. Russell, "Reducing computational load in segmental hidden Markov model decoding for speech recognition" *IEE Electronics Letters*, Vol. 41, No. 25, pp1408-1409, 2005
8. M J Russell and P J B Jackson, "A multiple-level linear/linear segmental HMM with a formant-based intermediate layer", *Computer Speech and Language*, 19 (2): 205-225, 2005
9. M J Carey, G D Tattersall, H Lloyd-Thomas and M J Russell, "Inferring identity from user behaviour", *IEE Proc. Vision, Image and Signal Processing*, vol 150, no6, 2003.
10. M J Russell and J A Bilmes, "Introduction to the Special Issue on New Computational Paradigms for Acoustic Modeling in Speech Recognition", *Computer Speech and Language*, Vol. 17, No 2-3, pp 107-112, 2003.
11. P J B Jackson, B H Lo and M J Russell, "Data-driven, non-linear, formant-to-acoustic mapping for ASR", *IEE Electronics Letters*, Vol. 38, No. 13, 20th June 2002, pp 667-669.
12. J B Hooper and M J Russell, "Objective quality analysis of a Voice over Internet Protocol system", *IEE Electronics Letters*, Vol 36, No. 22, pp 1900-1901, 26th October 2000.
13. M J Russell, R W Series, J L Wallace, C Brown and A Skilling, "The STAR system: an interactive pronunciation tutor for young children", *Computer Speech and Language*, Vol. 14, Number 2, 161-175, April 2000.
14. M J Russell, K M Ponting and M J Tomlinson, "Measure of local speaking-rate for automatic speech recognition", *IEE Electronics Letters*, Vol 35, No. 10, 787-789, May 1999
15. Wendy J Holmes and Martin J Russell, "Probabilistic trajectory segmental HMMs", *Computer Speech and Language*, Vol 13, Number 1, January 1999
16. Martin J Russell and Wendy J Holmes, "Linear Trajectory Segmental HMMs", *IEEE Signal Processing Letters*, Vol 4, Number 3, March 1997
17. M J Russell, R K Moore and M J Tomlinson, "Dynamic programming and statistical modelling in automatic speech recognition", *Journal of the Operational Research Society*, vol. 37, No. 1, January 1986, pp 21-30.
18. M J Russell, "Automorphisms and derivations of continuous trace C*-algebras", *J. London Mathematical Society* (2), vol 22, 1980, pp 139-145 ([PDF](#)),

Patent

19. M J Russell, R W Series and J L Wallace, "Children's speech training aid", Patent application number 92.23066-3, filed 4 November 1992.

Refereed International Conference

20. Abualsoud Hanani, Martin Russell and Michael Carey, "Speech-Based Identification of Social Groups in a Single Accent of British English by Humans and Computers", *submitted to IEEE ICASSP 2011*
21. Abualsoud Hanani, Michael Carey and Martin Russell, "An Efficient FIR Filter Bank", *submitted to IEEE ICASSP 2011*.
22. Hamid Sharifzadeh, Ian McLoughin and Martin Russell, "Toward a Comprehensive Vowel Space for Whispered Speech", *Proc. ISCSLP 2010, Taiwan* ([PDF](#))
23. Abualsoud Hanani, Michael Carey and Martin Russell, "Improved Language Recognition using Mixture Components Statistics", *Proc. Interspeech 2010, Tokyo, Japan* ([PDF](#))
24. Hongwei Hu, Martin J. Russell, "Improved modelling of speech dynamics using non-linear formant trajectories for HMM-based speech synthesis", *Proc. Interspeech 2010, Tokyo, Japan* ([PDF](#)).
25. Neil Cooke and Martin Russell, "Cache-based language model adaptation using visual attention for ASR in meeting scenarios", *Proc ICMI-MLMI 2009*
26. S M D'Arcy and M J Russell, "Experiments with the ABI (Accents of the British Isles) Speech Corpus", *Proc. Interspeech 2008, pp 293-296, Brisbane, Australia, 2008*
27. H W Hu and M J Russell, "Speech recognition using non-linear trajectories in a formant-based articulatory layer of a multiple-level segmental HMM", *Proc. Interspeech 2008, pp 2422-2425, Brisbane, Australia, 2008*
28. Y Liu and M J Russell, "The Role of 'Delta' Features in Speaker Verification", *Proc. Interspeech 2008, pp 1425-1428, Brisbane, Australia, 2008*
29. X Zou, P Jancovic, K Munevver and M J Russell, "ICA-based MAP speech enhancement with multiple variable speech distribution models", *Proc. Interspeech 2008, pp 415-418, Brisbane, Australia, 2008*
30. N Cooke and M J Russell, "Gaze-contingent asr for spontaneous, conversational speech: An evaluation", *Proc. IEEE ICASSP 2008, Las Vegas, USA, pages 4433-4436, March 31 - April 4 2008* ([PDF](#))
31. Martin Russell and Shona D'Arcy, "Challenges for computer recognition of children's speech", *Proc. SlaTE (Speech and Language Technology in Education) Workshop, Farmington, Pennsylvania USA, October 1-3, 2007* ([PDF](#))
32. Ying Liu, Martin Russell and Michael Carey, "The role of dynamic features in text-dependent and independent speaker recognition", *Proc. IEEE ICASSP 2006, Toulouse, France, I-669 - I-672, 2006* ([PDF](#))
33. P. Dixon, S. Furui and M. Russell, "Speaker Identification using Products of Experts", *Japanese acoustic society spring meeting, 2005*.
34. Anton Batliner, Mats Blomberg, Shona D'Arcy, Daniel Elenius, Diego Giuliani, Matteo Gerosa, Christian Hacker, Martin Russell, Stefan Steidl, Michael Wong, "The PF_STAR children's speech corpus", *Proc. Interspeech 2005, Lisbon*. ([PDF](#))
35. Shona M D'Arcy and Martin J Russell, "A Comparison of Human and Computer Recognition Accuracy for Children's Speech", *Proc. Interspeech 2005, Lisbon*. ([PDF](#))
36. N.J. Cooke and M.J Russell, "Using focus of visual attention to improve spontaneous speech recognition", *Proc. Interspeech 2005, Lisbon*.
37. Shona M D'Arcy, Martin J Russell, Sue R Browning and Mike J Tomlinson, "The Accents of the British Isles (ABI) Corpus", *Proc. Modélisations pour l'Identification des Langues, MIDL 2004, Paris, pp 115-119*. ([PDF](#))
38. Shona M D'Arcy, Lit Ping Wong and Martin J Russell, "An investigation of read and spontaneous children's speech using two new databases", *Proc. ICSLP 2004, Korea, October 2004*. ([PDF](#))

39. Martin J Russell and Philip J B Jackson, "Regularized re-estimation of stochastic duration models for phone classification", *Presented at the 75th Anniversary Meeting of the Acoustical Society of America, New York, 24-28 May 2004. Abstract published in JASA 115(5, Pt.2): 2429, May 2004. (PDF abstract)*
40. Ying Liu, Martin Russell and Michael Carey, "Speaker recognition using a trajectory-based segmental HMM", *Proc Odyssey 2004 Speaker and Language Recognition Workshop, Toledo, Spain, 31st May – 3rd June 2004, pp 45-50. (PDF)*
41. N Cooke, M J Russell and A S Meyer, "Evaluation of Hidden Markov Model robustness in uncovering focus of visual attention from noisy eye-tracker data" *Presented at ETRA 2004 Eye Tracking Research and Applications Symposium, San Antonio, TX, USA, March 2004.*
42. A. Batliner, C. Hacker, S. Steidl, E. Nöth, S. D'Arcy, M. Russell, and M. Wong, "'You stupid tin box' - children interacting with the AIBO robot: A cross-linguistic emotional speech corpus", *Proc. LREC 2004, pp 171-174. (PDF)*
43. J H Jin, M J Russell, M J Carey, J Chapman, H Lloyd-Thomas and G D Tattersall, "A spoken language interface to an electronic programme guide", *Proc. EUROSPEECH'03, Geneva, Switzerland, September 2003.*
44. M J Russell and P J B Jackson, "The effect of an intermediate articulatory layer on the performance of a segmental HMM", *Proc. EUROSPEECH'03, Geneva, Switzerland, September 2003.*
45. P J B Jackson and M J Russell, "Covariance and weighting of harmonically decomposed streams for ASR", *Proc. EUROSPEECH'03, Geneva, Switzerland, September 2003.*
46. David M Moreno, Philip J B Jackson, Javier Hernando and Martin J Russell, "Improved ASR in noise using harmonic decomposition", *Proc. 15th International Congress of Phonetic Sciences, ICPhS, Barcelona, 2003. (PDF)*
47. M J Russell, P J B Jackson and L P Wong, "Development of articulatory-based multi-level segmental HMMs for phonetic classification in ASR", *Proceedings of EC-VIP-MC '03, Zagreb, Croatia, July 2003. (PDF)*
48. P J B Jackson and M J Russell, "Models of speech dynamics in a segmental-HMM recogniser using intermediate linear representations", *Proceedings of ICSLP 2002, Denver, September 2002 (Postscript)*
49. Li Qun and Martin Russell, "An analysis of the causes of increased error rates in children's speech recognition", *Proceedings of ICSLP 2002, Denver, September 2002 (PDF)*
50. N Wilkinson and M J Russell, "Improved phone recognition on TIMIT using formant frequency data and confidence measures", *Proceedings of ICSLP 2002, Denver, September 2002 (PDF)*
51. Li Qun and Martin Russell, "Why is recognition of children's speech difficult?", *Proc. EUROSPEECH 2001, Aalborg, Denmark, pp 2671-2674 (PDF)*
52. S J Melnikoff, S F Quigley and M J Russell, "Performing speech recognition on multiple parallel files using continuous hidden Markov models on an FPGA", *IEEE International Conference on Field-Programmable Technology and its Applications, 2002.*
53. S J Melnikoff, S F Quigley and M J Russell, "Speech recognition on FPGA using discrete and continuous hidden Markov models, 12th International Workshop on Field-Programmable Logic and its Applications, Springer-Verlag, 202-211, 2002.
54. S J Melnikoff, S F Quigley and M J Russell, "Implementing a simple continuous speech recognition system on an FPGA", *IEEE Symposium on Field Programmable Custom Computing Machines, IEEE Computer Society Press, Los Alamitos, 2002.*
55. L P Wong and M J Russell, "Speaker verification under additive noise conditions with non-stationary SNR using PMC", *Proc. 2001: A Speaker Odyssey, The Speaker Recognition Workshop, June 18-22, Crete, Greece, pp 95-100*

56. L P Wong and M J Russell, "Text-dependent speaker verification under noisy conditions using parallel model combination", *Proc IEEE Int Conf on Acoustics, Speech and Signal Processing, ICASSP-2001, Salt Lake City, UT, USA*
57. N Wilkinson and M J Russell, "Progress towards improved speech modelling using asynchronous sub-bands and formant frequencies", *Proc. Institute of Acoustics, Vol. 23, Pt 3, 27-36, 2001* ([PDF](#))
58. L P Wong and M J Russell, "Text-dependent speaker verification under noisy conditions using parallel model combination", *Proc. Institute of Acoustics, Vol. 23, Pt 3, 143-152, 2001* ([PDF](#))
59. Simon Smith and Martin Russell, "Determining query types for information access", *Proc. 4th annual CLUK Colloquium, pp 80-89, University of Sheffield, 10-11 January 2001*
60. S J Melnikoff, P B James-Roxby, S F Quigley and M J Russell, "Reconfigurable computing for speech recognition: preliminary findings", *FPL 2000, pp. 495-504, 2000*
61. S J Melnikoff, S F Quigley and M J Russell, "Implementing a hidden Markov model speech recognition system in programmable logic, *International Conference on Field-Programmable Logic and Applications, Berlin, Springer-Verlag, 2001.*
62. Martin Russell and Wendy Holmes, "Progress towards a unified model for speech pattern processing" *Proc. Institute of Acoustics, Vol 20, Part 6 (1998) pp 21-28*
63. Julie L Wallace, Martin Russell, Catherine Brown and Adrian Skilling, "Applications of Speech Recognition in the Primary School Classroom", *ESCA Workshop on Speech Technology in Language Learning (STiLL), May 25-27,1998, Marholmen, Sweden.* ([PDF](#))
64. Martin J Russell, "Progress towards speech models that model speech", *Proc. IEEE Automatic Speech Recognition and Understanding Workshop, Santa Barbara, CA, USA, 14th-17th December 1997 (Invited talk).*
65. M J Tomlinson, M J Russell, R K Moore, A P Buckland and M A Fawley, "Modelling asynchrony in speech using elementary single-signal decomposition", *Proc. ICASSP'97, Munich, 21st-24th April, 1997.*
66. Wendy J Holmes and Martin J Russell, "Linear dynamic segmental HMMs: variability representation and training procedure", *Proc. ICASSP'97, Munich, 21st-24th April, 1997.*
67. Martin Russell, "Advances in Speech Recognition", *Proceedings of the Institute of Acoustics, Vol 18, Part 9, 1996 (Keynote Lecture to the IOA Autumn Conference on Speech and Hearing, Windermere, 21-24 November, 1996).*
68. Wendy J Holmes and Martin J Russell, "Modelling variability in speech patterns using dynamic segmental HMMs", *Proceedings of the Institute of Acoustics, Vol 18, Part 9, 1996 (IOA Autumn Conference on Speech and Hearing, Windermere, 21-24 November, 1996).*
69. Martin Russell, Catherine Brown, Adrian Skilling, Rob Series, Julie Wallace, Bill Bonham and Paul Barker, "Applications of automatic speech recognition to speech and language development in young children", *Proceedings of the Institute of Acoustics, Vol 18, Part 9, 1996 (IOA Autumn Conference on Speech and Hearing, Windermere, 21-24 November, 1996)*
70. Martin Russell, Catherine Brown, Adrian Skilling, Rob Series, Julie Wallace, Bill Bonham and Paul Barker, "Applications of automatic speech recognition to speech and language development in young children", *Proceedings of the International Conference on Spoken Language Processing, ICSLP'96, Philadelphia, USA, 3-6 October 1996* ([PDF](#))
71. P N Garner, S R Browning, R K Moore and M J Russell, "A theory of word frequencies and its application to dialogue move recognition", *Proceedings of the International Conference on Spoken Language Processing, ICSLP'96, Philadelphia, USA, 3-6 October 1996.* ([PDF](#))
72. Wendy J Holmes and Martin J Russell, "Modelling speech variability with segmental HMMs", *Proc IEEE ICASSP'96, Atlanta, 7-10 May 1996.* ([PDF](#))
73. M J Tomlinson, M J Russell and N M Brooke, "Integrating audio and visual information to provide highly robust speech recognition", *Proc IEEE ICASSP'96, Atlanta, 7-10 May 1996.* ([PDF](#))

74. Stuart Bird, Sue Browning, Roger Moore and Martin Russell, "Dialogue move recognition using topic spotting techniques", Proc. ESCA Workshop on Spoken Dialogue Processing - Theory and Practice, Vigsø, Denmark, 30 May-2 June 1995. [\(PDF\)](#)
75. Wendy J Holmes and Martin J Russell, "Speech Recognition using a linear dynamic segmental HMM", Proc. Eurospeech'95, Madrid, Spain, September 1995, pp 1611-1614 [\(PDF\)](#)
76. Wendy Holmes and Martin Russell, "Experimental evaluation of segmental HMMs", Proc IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP'95, Detroit, USA, May 8-12, 1995
77. R K Moore, M J Russell, P Nowell, S N Downey and S R Browning, "A comparison of Phoneme Decision Tree (PDT) and Context Adaptive Phone (CAP) based approaches to vocabulary-independent speech recognition", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, ICASSP'94, Adelaide, Australia, April 1994*
78. Wendy J Holmes and Martin J Russell, "Automatic speech recognition using segmental hidden Markov models", Proc Institute of Acoustics Autumn Conference on Speech and Hearing, Windermere, 24-27 November, 1994.
79. M J Russell, "A segmental HMM for speech pattern modelling", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, Minneapolis, April 1993.
80. Ian Lewin, Martin Russell, David Carter, Sue Browning, Keith Ponting and Stephen Pulman, "A speech-based route enquiry system built from general-purpose components", Proc. Eurospeech'93, Berlin, Germany, September 1993. [\(PDF\)](#)
81. S N Downey, M J Russell, P Nowell, D Bijl, K Galloway and K M Ponting, "Experiments in vocabulary independent speech recognition using phoneme decision trees", Proc. Eurospeech'93, Berlin, Germany, September 1993.
82. M J Russell, "A segmental statistical model for speech pattern processing", Proc Institute of Acoustics Autumn Conference, Windermere, 1992.
83. M J Russell, "The development of the speaker-independent ARM speech recognition system", Proc Institute of Acoustics Autumn Conference, Windermere, 1992.
84. S N Downey and M J Russell, "A decision tree approach to task-independent speech recognition", Proc Institute of Acoustics Autumn Conference, Windermere, 1992.
85. M J Russell, "ARMADA: a system for automatic recognition of continuously spoken airborne reconnaissance mission reports", Battlefield Vtronics and Communications International 92, 2-4 June 1992, Chertsey, Surrey, UK. [\(PDF\)](#)
86. M J Russell, "The ARMADA continuous speech recognition system", Proc. IEE colloquium on `Systems and applications of man-machine interaction using speech I/O', London, 18 March 1991.
87. M J Russell, K M Ponting, S M Peeling, S R Browning, J S Bridle and R K Moore, "The ARM continuous speech recognition system", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, Albuquerque, New Mexico, April 1990.
88. M J Russell, K M Ponting and S M Peeling, "The ARMADA speech recognition system", Proc. Voice Systems Worldwide 1990, London, May 30 - June 1, 1990. [\(PDF\)](#)
89. M J Russell and K M Ponting, "Recent results from the ARM continuous speech recognition project", Proceedings of the DARPA Spoken Language Systems Workshop, Hidden Valley, Somerset PA, 22-25 June 1990.
90. L Dodd, J S Bridle and M J Russell, "HMM-MLP Hybrids for Isolated Word Recognition", Proc. Institute of Acoustics Autumn Conf., Windermere, 1990.
91. S R Browning, R K Moore, K M Ponting and M J Russell, "A Phonetically Motivated Analysis of the Performance of the ARM Continuous Speech Recognition System", Proc. Institute of Acoustics Autumn Conf., Windermere, 1990.

92. K M Ponting and M J Russell, "The ARM Project: Automatic recognition of spoken airborne reconnaissance reports", Proc. military and government Speech Tech'89, Arlington, VA, 13-15 November 1989.
93. A P Varga, R K Moore, J S Bridle, K M Ponting and M J Russell, "Noise compensation algorithms for use with hidden Markov model based speech recognition", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, New York, April 11-14 1988. ([PDF](#))
94. M J Russell, "Statistical modelling of state duration correlations in hidden Markov models", Proc. SPEECH'88 - 7th FASE Symposium, 22-26 August 1988, Edinburgh.
95. M J Russell and A E Cook, "Experimental Evaluation of Duration Modelling Techniques for Automatic Speech Recognition", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, Dallas, April 1987, pp 2376-2379.
96. M J Russell and A E Cook, "Experiments in Speaker Dependent Isolated Digit Recognition using Hidden Markov Models", Proc. Institute of Acoustics Autumn Conf., Windermere, pp 291-298, 1986.
97. A E Cook and M J Russell, "Improved Duration Modelling in Hidden Markov Models using Series-Parallel Configurations of States", Proc. Institute of Acoustics Autumn Conf., Windermere, 1986, pp 299-306.
98. M J Russell and R K Moore, "Explicit modelling of state occupancy in hidden Markov models for automatic speech recognition", Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, Tampa, 26-29 March 1985, pp 5-8.
99. M J Russell, J C A Deacon and R K Moore, "Some implications of the effect of template choice on the performance of an automatic speech recogniser", Proc. Institute of Acoustics Autumn Conf., Windermere, pp 287-292, November 1984. ([PDF](#))
100. M J Russell, R K Moore and M J Tomlinson, "Some techniques for incorporating local timescale variability information into a dynamic time-warping algorithm for automatic speech recognition", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, Boston, 1983, pp 1037-1040. ([PDF](#))
101. R K Moore, M J Russell and M J Tomlinson, "The discriminative network: a mechanism for focussing recognition in whole-word pattern matching", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, Boston, 1983, pp 1041-1044.
102. R K Moore, M J Russell and M J Tomlinson, "Locally constrained dynamic programming in automatic speech recognition", Proc. IEEE International Conf. on Acoustics, Speech and Signal Processing, Paris, 1982, pp 1270-1273.
103. M J Russell, R K Moore and M J Tomlinson, "Automatic speech recognition using local timescale variability information", Proc. Institute of Acoustics autumn conf., 1982, pp C3.1-C3.5.
104. R K Moore, D Beardsley, M J Russell and M J Tomlinson, "Towards an integrated discriminative network for automatic speech recognition" Proc. Institute of Acoustics autumn conf., 1982, pp C1.1-C1.5.

Other

105. Martin Russell, "Speech technologies for children", IEEE Speech and Language Processing Technical Committee Newsletter, July 2010 ([online article](#))
106. Martin Russell, "SLaTE - the ISCA Special Interest Group on Speech and Language Technology in Education", IEEE Speech and Language Processing Technical Committee Newsletter, April 2010 ([online article](#))
107. M J Russell, "Research Issues in Whole-Word Modelling", Invited Lecture to MPhil Course, Engineering Dept., Cambridge University, November 1986.
108. M J Russell and R K Moore, "Application of semi-Markov models to automatic speech recognition", RSRE Research Review.

109. M J Russell, "Maximum likelihood hidden semi-Markov model parameter estimation for automatic speech recognition", RSRE Memorandum No. 3837, June 1985.
110. R K Moore, M J Russell and M J Tomlinson, "Improving automatic speech recognition techniques using temporal variability measurements", RSRE Newsletter and research review, No. 6, 1982.
111. M J Russell, "Automorphisms of postliminal C*-algebras", PhD Thesis, University of Hull, 1981.