Curriculum Vitae for *James J. Clark*

Affiliation: Department of Electrical and Computer Engineering
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Education

- **Post-Doctoral Fellow**, Division of Applied Sciences, **Harvard University**, Cambridge, MA, USA, 1985-86.
- **Ph.D.**, Department of Electrical Engineering, **University of British Columbia**, Vancouver, B.C., CANADA, 1980-85
- **B.A.Sc.**, Department of Electrical Engineering, **University of British Columbia**, Vancouver, B.C., CANADA, 1975-80

Professional Experience

- **Associate Dean, Academic,** Faculty of Engineering, **McGill University**, Montreal, Quebec, July 1, 2005 – July 31, 2011
- **Associate Chair (acting)**, Department of Electrical Engineering, **McGill University**, Montreal, Quebec, September 2004 – August 2005
- **Professor**, Department of Electrical Engineering, **McGill University**, Montreal, Quebec, June 2004 – present
- Laboratory for Computational Intelligence, **University of British Columbia,** Vancouver, B.C., May 2002 – August 2002 (sabbatical leave)
- Laboratoire Experimentale de Psychologie, **Université René Descartes/Paris V,** Paris France, September 2001 – May 2002 (sabbatical leave)
- **Associate Professor**, Department of Electrical Engineering, **McGill University**, Montreal, Quebec, September 1996 – May 2004
- **Visiting Research Scientist** and consultant, **Nissan Cambridge Basic Research**, Cambridge, Massachusetts, October 1994 - August 1996
- Department of Engineering and Applied Sciences, **California Institute of Technology**, Pasadena, California, January 1992 to June 1992 (sabbatical leave)
- **Gordon McKay Associate Professor** of Applied Sciences, **Harvard University**, Cambridge, Massachusetts, July 1990 to August 1994
- **Gordon McKay Assistant Professor** of Applied Sciences, **Harvard University**, Cambridge, Massachusetts, July 1986 to June 1990

Senior Member: Institute for Electrical and Electronic Engineers

Member: Association of Professional Engineers and Geoscientists of B.C., P.Eng., and the Ordre des ingénieurs du Québec, ing.jr.

Publications

I.   Refereed Journal Articles

1. Skaff, S. and Clark, J.J., "Spectral Color Constancy using a Maximum Entropy Approach" accepted for publication in *Journal of the Optical Society of America – A*
2. Ziat, M., Au, C.E., Haji-Abolhassani, A. and Clark, J.J., ``Engaging Attention through Action in Map Learning on Cell Phones", accepted for publication in *ACM Transactions on Applied Perception*
3. Au, C.E. and Clark, J.J., ``Integrating Multiple Views with Virtual Mirrors to Facilitate Scene Understanding", *ACM Transactions on Applied Perception,* Vol. 8(4), 2011.
4. Clark, J.J., "Photometric Stereo using LCD Displays", *Image and Vision Computing*, Vol. 28, No. 4, pp 704-714, 2010.
5. Clark, J.J. and Skaff, S., "A spectral theory of color perception", *Journal of the Optical Society of America - A*, Vol. 26, No. 12, pp. 2488-2502, 2009.
6. Skaff, S., Arbel, T., and Clark, J.J.,"A Sequential Bayesian Approach to Color Constancy using Non-Uniform Filters", *Computer Vision and Image Understanding*, Vol. 113, No. 9, pp. 993-1004,2009.
7. Laporte, C., Clark, J.J. and Arbel, T., "Generalised Poisson 3D scatterer distributions", *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, Vol. 56, No. 2, pp. 410-415, 2009.
8. Reeve, P., Clark, J.J. and O'Regan, J.K., "Convergent flash localization near saccades without equivalent 'compression' of perceptual separation", *Journal of Vision*, Vol. 8(13):5, pp. 1-19, 2008.
9. Jie, L. and Clark, J.J., ``Video Game Design Using an Eye Movement Dependent Model of Visual Attention", in *ACM Transactions on Multimedia Computing, Communications, and Applications*, Vol. 4, No. 3, pp 22:1-16, 2008.
10. Nair, V., Laprise, P.-O., and Clark, J.J., "An FPGA-based people detection system", *EURASIP Journal on Applied Signal Processing,* Vol. 7, pp 1047-1061, 2005.
11. Li, M. and Clark, J.J., "A Temporal Stability Approach to Position and Attention Shift Invariant Recognition", *Neural Computation*, Vol. 16, No. 11, pp 2293 - 2321, 2004.
12. Clark, J.J., "Ecological considerations support color physicalism", *Behavioural and Brain Sciences,* Vol 26, pp 24-25, 2003.
13. Hafed, Z.M. and Clark, J.J., "Microsaccades as an overt measure of covert attention shifts", *Vision Research*, Vol. 42, No. 22, pp 2533-2545, 2002
14. Hamze, F. and Clark, J.J., "View-based route learning with self-organizing neural networks", *Image and Vision Computing*, Vol. 19, No. 11, pp 753-761, September 2001.
15. Clark, J.J. and Wang, L., "Active Shape from Shadows with Optimized Illuminant Trajectories", *International Journal of Computer Vision*, Vol. 43, No. 3, pp 141-166, July, 2001.
16. Clark, J.J., "Guest editor's introduction", *International Journal of Computer Vision,* Vol. 43, No. 3, pp 139-140, July, 2001.
17. Rensink, R.A., O'Regan, J.K., and Clark, J.J., "On the Failure to Detect Changes in Scenes Across Brief Interruptions", in *Visual Cognition* Vol. 7, No. 1, pp 127-146, 2000.
18. O'Regan, J.K, Deubel, H., Clark, J.J., and Rensink, R.A., "Picture changes during blinks: looking without seeing and seeing without looking", in *Visual Cognition* Vol. 7, No. 1, pp 191-212, 2000.
19. Clark, J.J., "Linking covert and overt attention", *Behavioural and Brain Sciences*, Vol. 22, No. 4, p. 676, 1999
20. Clark, J.J. and O'Regan, J.K., "Word Ambiguity and the Optimal Viewing Position in Reading", *Vision Research*, Vol. 39, No. 4, pp 843-857, 1999.
21. O'Regan, J.K., Rensink, R.A., and Clark, J.J., "Change blindness as a result of mudsplashes", *Nature*, Vol. 398, p. 34, March 4, 1999.

22. Clark, J.J., "Spatial Attention and Latencies of Saccadic Eye Movements", *Vision Research*, Vol. 39, No. 3, pp 583-600, 1999

23. Rensink, R.A., O'Regan, J.K., and Clark, J.J., "To See or Not to See: The Need for Attention to Perceive Changes in Scenes", *Psychological Science*, Vol. 8, pp 368-373. 1997.

24. Rensink R.A., O'Regan JK, and Clark J.J., "The Need for Attention to See Changes in Scenes", *Nissan Technical Review*, Vol. 41, pp 57-60. 1997

25. Saxena, N. and Clark, J.J., "Analogue system for eigenvalue computation and sorting based on an isospectral matrix flow", *Electronics Letters*, Vol. 31, No. 1, pp 24-26, 1995

26. Saxena, N. and Clark, J.J., "A four-quadrant CMOS analog multiplier for analog neural networks", *IEEE Journal of Solid State Circuits*, pp 746-749, June 1994.

27. Ferrier, N.J., and Clark, J.J., "The Harvard Binocular Head", in the *International Journal of Pattern Recognition and Artificial Intelligence*, Vol. 7, No. 1, pp 9-32, 1993.

28. Clark, J.J., "Introduction to the special issue on VLSI for Computer Vision", *International Journal of Computer Vision*, pp 175-176, September 1992

29. Clark, J.J., "Split Drain MOSFET Magnetic Sensor Arrays", *Sensors and Actuators*, Vol. 24, pp 107-116, 1990

30. Clark, J.J., "Authenticating edges produced by zero crossing algorithms", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 11, No. 1, pp 43-57, January 1989

31. Clark, J.J., "Singularity theory and phantom edges in scale space", *IEEE Trans. Pattern Analysis and Machine Intelligence*, Vol. 10, No. 5, pp 720-726, September 1988.

32. Clark, J.J., "Analysis of the error in the reconstruction of N dimensional stochastic processes", *IEEE Transactions on Acoustics, Speech and Signal Processing*, Vol. 34, No. 5, pp 1326-1329, October, 1986

33. Clark, J.J. and Lawrence, P.D., "A theoretical basis for diffrequency stereo", *Computer Vision, Graphics and Image Processing*, Vol. 35, No. 1, pp 1-19, June, 1986

34. Clark, J.J., Palmer, M.R., and Lawrence, P.D., "A transformation method for the reconstruction of functions from non-uniformly spaced samples", *IEEE Transactions on Acoustic, Speech and Signal Processing*, Vol. 33, No. 4, pp 1151-1165, October, 1985. (Awarded the IEEE Transactions on ASSP Best Paper Award, 1987)

35. Clark, J.J. and Lawrence, P.D., "A systolic parallel processor for the rapid computation of multi-resolution edge images using the $\nabla^2 G$ operator", *Journal of Parallel and Distributed Computing*, Vol. 2, pp 302-319, 1985.

II.   Book Chapters

1. Li, M. and Clark, J.J., "Selective Attention in the Learning of Viewpoint and Position Invariance", in Attention and Cognitive Systems, L. Paletta and E. Rome, eds., *Lecture Notes in Artificial Intelligence*, Vol. 4840, Springer, 2007.
2. Clark, J.J., Hafed, Z. and Jie, L. ``Attention and Action'', in *Computational Vision in Neural and Machine Systems*, L. Harris and M. Jenkin, eds., Cambridge University Press, Cambridge England, 2007
3. Saxena, N. and Clark, J.J., "Parallel implementation of the double bracket matrix flow for eigenvalue-eigenvector computation and sorting", in *Algorithms and Parallel VLSI Architecture*, M. Moonen and F. Cathorr, eds, Elsevier Scientific Press, pp 85-96, 1995
4. Ferrier, N.J., and Clark, J.J., "The Harvard Binocular Head", *in ACTIVE ROBOT VISION: Camera Heads, Model Based Navigation and Reactive Control*, H.I. Christensen, K.W. Bowyer and H. Bunke eds., World Scientific Press, Singapore, pp 9- 32, 1993
5. Clark, J.J., and Ferrier, N.J., "Attentive visual servoing", in *An Introduction to Active Vision*, A. Blake and A.L. Yuille, eds, MIT Press, Cambridge Massachusetts, pp 137-154, 1992
6. Yuille, A.L., and Clark, J.J., "Bayesian Models, Deformable Templates, and Competitive Priors", in *Spatial Vision in Humans and Robots*, L. Harris and M. Jenkin, eds., pp 137-154, Cambridge University Press, Cambridge England, 1992
7. Clark, J.J. and Lawrence, P.D., "A hierarchical image analysis system based upon oriented zero crossings of bandpassed images.", in *Multi-Resolution Image Processing and Analysis*, Azriel Rosenfeld, ed., Springer-Verlag, pp 148-168, 1984

III.   Books

Clark, J.J., and Yuille, A.L., **Data Fusion for Sensory Information Processing Systems,** Kluwer Academic Publishers, Boston, MA, 1990.

IV.   Papers in Refereed Conference Proceedings

1. Haji-Abolhassani, A. and Clark, J.J., ``Visual Task Inference in Conjunction Search Using Hidden Markov Models and Token Passing'' accepted for presentation at the 2012 *Vision Science Symposium* (VSS), May 2012
2. Au, C.E., Ng, V. and Clark, J.J., ``MirrorMap: Augmenting 2D Mobile Maps with Virtual Mirrors'', *Proceedings of the 13th Annual International Conference on Human Computer Interaction with Mobile Devices and Services*, pp. 255-264, 2011.
3. Demirkus, M., Oreshkin, B., Clark, J.J. and Arbel, T., ``Spatial and probabilistic codebook template based head pose estimation from unconstrained environments'', Proceedings of the *IEEE International Conference on Image Processing (ICIP)*, Brussels, September 2011
4. Haji-Abolhassani, A. and Clark, J.J., ``Visual Task Inference Using Hidden Markov Models'', proceedings of the 2011 *International Joint Conference on Artificial Intelligence* (IJCAI), pp 1678-1683.
5. Haji-Abolhassani, A. and Clark, J.J., ``Realization of an Inverse Yarbus Process via Hidden Markov Models for Visual-Task Inference'', Proceedings of the 2011 *Vision Science Symposium* (VSS).
6. Clark, J.J., ``Physical Asymmetries and Brightness Perception'', *Symposium on Brain, Body and Machine*, Montreal, November 2010, Springer Advances in Intelligent and Soft Computing, Vol 83, pp. 71-82.

7. Au, C.E. and Clark, J.J., ``A New Approach to Virtual Mirroring for View Integration", *Symposium on Brain, Body and Machine*, Montreal, November 2010, Springer Advances in Intelligent and Soft Computing, Vol. 83, pp. 45-56.

8. Demirkus, M., Toews, M., Clark, J.J. and Arbel, T., ``Gender Classification from Unconstrained Video Sequences", accepted for presentation at the *IEEE Workshop on Analysis and Modeling of Faces and Gestures (AMFG)*, San Francisco, June 2010

9. Skaff, S. and Clark, J.J., ``Maximum Entropy Spectral Models for Color Constancy in the Presence of Interreflections," Proceedings of the *16th Color Imaging Conference*, Portland, OR, November 2008.

10. Skaff, S., Clark, J.J., and Rekleitis, I. ``Estimating Surface Reflectance Spectra for Underwater Color Vision", *Proceedings of the 2008 British Machine Vision Conference*, Leeds, U.K., Vol. 2, pp. 1015-1024, September 2008.

11. Au, C.E. and Clark, J.J., ``Multiple View Integration and Display Using Virtual Mirrors", accepted for presentation at the *5th Canadian Conference on Computer and Robot Vision*, Windsor, Ontario, May 2008.

12. Skaff, S. and Clark, J.J., ``Maximum Entropy Spectral Models for Color Constancy", Proceedings of the *15th Color Imaging Conference*, Albuquerque, N.M., November 2007, pp. 100-105.

13. Jie, L. and Clark, J.J., ``Game Design Guided by Visual Attention", proceedings of the *International Conference on Entertainment Computing*, Shanghai, pp 345-355, September 2007.

14. Laporte, C., Clark, J.J. and Arbel, T., ``A Fractal Multi-dimensional ultrasound scatterer distribution model", *Proceedings of the IEEE International Symposium on Biomedical Imaging (ISBI07)*, Washington D.C., pp 880-883, April 2007.

15. Au, C., Skaff, S., and Clark, J.J., ``Anomaly Detection for Video Surveillance Applications", *Proceedings of the International Conference on Pattern Recognition*, pp 888-891,Hong Kong, August 2006

16. Ehtiati, T. and Clark, J.J., "A Strongly Coupled Bayesian Model for the Bi-directional Influences between the Scene and the Object Identification Processes", proceedings of the *International Workshop on The Representation and Use of Prior Knowledge in Vision*, pp. 126-139, Graz, Austria, May 2006

17. Clark, J.J., "Photometric Stereo with Nearby Planar Distributed Illuminants", proceedings of the *Third Canadian Conference on Computer and Robot Vision*, p. 16, Quebec City, June 2006

18. Ahmedali, T. and Clark, J.J., "Collaborative Multi-Camera Surveillance with Automated Person Detection", proceedings of the *2006 International Workshop on Video Processing for Security*, p. 39, Quebec City, June 2006

19. Clark, J.J. and Li, M., "Perceptual Stability and the Learning of Invariance" invited presentation at the *Invariant Representations in Vision Workshop*, Snowbird Utah, March 2005

20. Ehtiati, T. and Clark, J.J., "Interacting Scene and Object Identification Processes: Strongly Coupled Priors vs. Strongly Coupled Likelihoods", unpublished poster presentation at the 2005 *Computational and Systems Neuroscience (COSYNE) Conference*, Salt Lake City, Utah, March 2005

21. Clark, J.J. and Skaff, S., "Maximum Entropy Models of Surface Reflectance Spectra", *Instrumentation and Measurement Technology Conference (IMTC)*, Ottawa, Ontario, May 2005

22. Jie, L. and Clark, J.J., "Microsaccadic Eye Movements During Ocular Pursuit", *Vision Sciences Society Annual Meeting (VSS)*, Sarasota, Florida, May 2005

23. Clark, J.J., "Attention and Eye Movements", invited presentation at the *CVR 2005 International Vision Conference*, Toronto, Ontario, June 2005

24. Li, M. and Clark, J.J., "Selective Attention in the Learning of Invariant Representation of Objects", *Workshop on Attention and Performance in Computer Vision*, San Diego, June 2005.

25. Ehtiati, T. and Clark, J.J., "A Strongly Coupled Architecture for Contextual Object and Scene Identification", 2004 *International Conference on Pattern Recognition*, Cambridge, England, Vol. III, pp 69-72, August 2004

26. Reeve, P., Clark, J.J. and O'Regan, J.K, "Perceptual visual space is not compressed before saccades", 2004 *European Conference on Visual Perception*, Budapest, Hungary, August 2004

27. Nair, V. and Clark, J.J., "An unsupervised, online learning framework for moving object detection", 2004 *IEEE Conference on Computer Vision and Pattern Recognition*, Washington D.C., Vol. 2, pp 317-324, June 2004.

28. Li, M. and Clark, J.J., "Learning of Position and Attention-Shift Invariant Recognition across Attention Shifts", 2004 *Workshop on Attention and Performance in Computer Vision*, Prague, Lecture Notes in Computer Science, 3368 Springer 2004, pp 57-70, May 2004.

29. Clark, J.J. and Hernandez, D., ``Surround statistics and the perception of intensity and color'', *3rd International Workshop on Statistical and Computational Theories of Vision*, Nice, October 2003.

30. Hafed, Z.M. and Clark, J.J., "Detecting patterns of covert attention shifts in psychophysical tasks using microsaccades", accepted for presentation at the 2003 Vision Sciences Symposium, Sarasota, Florida, May 2003, also in *Journal of Vision* 3(9), 183a.

31. Hafed, Z.M. and Clark, J.J., "Shifts in Feature-based attention as a result of spatial cueing: support for location dominance in attentional selection", European Conference on Visual Perception, Scotland, August 2002.

32. Bompas, A., Clark, J.J. and O'Regan, J.K., "Color Perception in the Sensorimotor Contingency Theory", European Conference on Visual Perception, Scotland, August 2002.

33. Clark, J.J., Reeve, P.T., and O'Regan, J.K., "Illusory displacement in periodic LED flashing", Conference on Visual Localization in Space-Time, Brighton, England, August 2002.

34. Skaff, S., Arbel, T., and Clark, J.J., "Active Bayesian Color Constancy with Non-Uniform Sensors", 2002 International Conference on Pattern Recognition, Quebec City, Canada, pp II-681:684, August 2002

35. Lamarre, M. and Clark, J.J., "Background subtraction using competing models in the block-DCT domain", 2002 International Conference on Pattern Recognition, Quebec City, Canada, pp I-299:304, August 2002

36. Hafed, Z. and Clark, J.J., "Pre-saccade target color influences the perception of its post-saccade counterpart", 2002 Vision Sciences Symposium, Sarasota, Florida, p. 65, May 2002.

37. Nair, V. and Clark, J.J., "Automated Visual Surveillance Using Hidden Markov Models", the 15th Vision Interface Conference, Calgary, pp 88-92, May 2002.

38. Hafed, Z.M. and Clark, J.J., "Microsaccades reflect covert attention shifts", European Conference on Visual Perception, Turkey, August 2001.

39. O'Regan, J.K., Clark, J.J. and Bompas, A., "Are visual sensations sensorimotor contingencies?" European Conference on Visual Perception, Turkey, August 2001.

40. Hochstein, L., Lerner, S., Clark, J.J., and Cooperstock, J., "Soccer-Swarm: A visualization framework for the development of robot soccer players", 2000 International Symposium on Robotics, Montreal, May 2000, pp 108-113

41. Clark, J.J. and O'Regan, J.K., "A Temporal-difference learning model for perceptual stability in color vision", 2000 International Conference on Pattern Recognition, Barcelona, Spain, September 2000, pp 503-506

42. Hafed, Z. and Clark, J.J., "Neural network model of saccade generation and control", *Investigative Ophthalmology and Visual Science*, Vol. 41, No. 4, p S315. (abstract of 2000 ARVO Conference), May 2000.

43. Clark, J.J. and Pekau, H., "An integral formulation of differential photometric stereo", Proceedings of the 1999 IEEE Computer Vision and Pattern Recognition Conference, Fort Collins, Colorado, June 1999, pp 119-124.

44. Hamze, F. and Clark, J.J., "View-based route learning with self-organizing neural networks", 1999 Workshop on Perception for Mobile Agents, Fort Collins, Colorado, pp 61-73, June 1999.

45. Clark, J.J., "Spatial attention and saccadic camera motion", Proceedings of the IEEE International Conference on Robotics and Automation, Leuven, Belgium, May 1998, pp 3247-3252.

46. Clark, J.J., "Spatial attention and the maintenance of representations of a robot's environment", Proceedings of the 1998 Workshop on Perception for Mobile Agents, Santa Barbara, June 1998.

47. Clark, J.J. and Wang, L., "Trajectories for optimal temporal integration in active vision systems", Proceedings of the IEEE International Conference on Robotics and Automation, Albuquerque N.M., pp 431-436, April 1997

48. O'Regan, J.K., Deubel, H., Clark, J.J. and Rensink, R.A., "Picture changes during blinks: not seeing where you look and seeing where you don't look", *Investigative Ophthalmology and Visual Science*, vol. 38, No. 4, p 707, 1997. (abstract of 1997 ARVO Conference)

49. Rensink, R.A., O'Regan, J.K., and Clark, J.J., "To see or not to see: The need for attention to perceive changes in scenes", *International Journal of Psychology*, 31(3/4):, p 257, 1996

50. Rensink, R.A., O'Regan, J.K., and Clark, J.J., "To see or not to see: The need for attention to perceive changes in scenes", *Investigative Ophthalmology and Visual Science*, vol. 37, No. 4, p 213, 1996 (abstract of 1996 ARVO Conference)

51. O'Regan, J.K., Rensink, R.A., and Clark, J.J., "Mud splashes render picture changes invisible", *Investigative Ophthalmology and Visual Science*, vol. 37, No. 4, p 213, 1996 (abstract of 1996 ARVO Conference)

52. Saxena, N. and Clark, J.J., "Parallel implementation of the double bracket matrix flow for eigenvalue-eigenvector computation and sorting", in Algorithms and Parallel VLSI Architecture,, M. Moonen and F. Cathorr, eds, Elsevier Scientific Press, pp 85-96, 1995

53. Weisman, M.J., Yuille, A.L., and Clark, J.J., "Parameterized Surface Fitting via MAP Estimation for Binocular Stereo", Proceedings of the 1995 IEEE International Conference on Robotics and Automation, Nagoya, Japan, 1995, pp 2049-2053.

54. Rensink, R.A., O'Regan, J.K., and Clark, J.J., "Image flicker is as good as saccades in making large scene changes invisible", *Perception (suppl.)*, Vol. 24, pp 26-28, 1995 (abstract of the European Conference on Visual Perception, Tübingen Germany, August 1995)

55. Saxena, N. and Clark, J.J., "Parallel implementation of the double bracket matrix flow for eigenvalue-eigenvector computation and sorting", Proceedings of the 3rd International Workshop on Algorithms and Parallel VLSI Architectures, Leuven, Belgium, August 1994

56. Wang, L. and Clark, J.J., "Active shape and depth extraction from shadow images", Proceedings of the International Conference on Image Processing, Austin, Texas, pp 530-533, November 1994

57. Clark, J.J. and Hewes, R.P., "MIMD image analysis with local agents", Proceedings of the International Conference on Image Processing, Austin, Texas, pp 681-685, November 1994

58. Clark, J.J., and Cochran, D., "Time-warped Bandlimited Signals: Sampling, Bandlimitedness, and Uniqueness of Representation", in Proceedings of the IEEE International Symposium on Information Theory, San Antonio, TX, p. 331, January 1993

59. Wang, L. and Clark, J.J., "Depth from active shadow motion", Proceedings of the SPIE Conference on Intelligent Robots and Computer Vision XII, Boston, MA, pp. 2-13, September 1993

60. Clark, J.J., "Active Photometric Stereo", in Proceedings of the 1992 IEEE Computer Vision and Pattern Recognition Conference, Champaign, IL, pp 29-35, June 1992

61. Clark, J.J., Weisman, M.J. and Yuille, A.L., "Using Viewpoint Consistency Information in Active Stereo Vision", Proceedings of SPIE Conference on Intelligent Robots and Computer Vision XI, Boston, MA, pp. 696-702, November 1992

62. Clark, J.J. and Friedman, D.J., "VLSI Sensorimotor Systems", Proceedings of the 1991 IEEE Robotics and Automation Conference, Sacramento, pp 1342-1347, April 1991

63. Clark, J.J., "Whitening Filtering Error Using Nonuniform Sampling", Proceedings of the 10th Annual Phoenix Conference on Computers and Communications, Scottsdale AZ, pp 477-482, March 1991

64. Friedman, D.J. and Clark, J.J., "VLSI Sensor/Processor Circuitry for Autonomous Robots", Proceedings of the SPIE Conference on Optics, Illumination and Image Sensing for Machine Vision VI, Boston, pp 99-110, November 1991

65. Hwang, T.L. and Clark, J.J., "A Spatio-temporal Generalization of Canny's Edge Detector", Proceedings of the 10th Int. Conference on Pattern Recognition, Atlantic City, pp 314-318, June 1990

66. Hwang, T.L. and Clark, J.J., "On Local Detection of Moving Edges", Proceedings of the 10th Int. Conference on Pattern Recognition, Atlantic City, pp 180-184, June 1990

67. Bestavros, A.A., Clark, J.J., and Ferrier, N.J., "Management of Active Sensing in Mobile Robotic Systems", Proceedings of the 1990 IEEE Robotics and Automation Conference, Cincinnati, pp 592-597, May 1990.

68. Ferrier, N.J. and Clark, J.J., "Optimal Motion for Active Sensing", Proceedings of the 1990 International Symposium on Robotics and Manufacturing, Vancouver, pp 169-174, July 1990.

69. Clark, J.J. and Hewes, R.P., "Active Sensing at a Microscopic Scale", Proceedings of the 1990 IEEE International Symposium on Intelligent Control, Philadelphia, pp 246-251, September 1990.

70. Clark, J.J., "An Analog CMOS Implementation of a Self-organizing Feedforward Network", Proceedings of the 1990 International Joint Conference on Neural Networks, pp II-118-121, Jan 1990

71. Cochran, D., and Clark, J.J., "On the Sampling and Reconstruction of Time Warped Band-limited Signals", Proceedings of the 1990 International Conference on Acoustics Speech and Signal Processing, Albuquerque, N.M., pp 1539-1541, April 1990

72. Clark, J.J. and Yuille, A.L., "Shape From Shading via the Fusion of Specular and Lambertian Image Components", Proceedings of the 10th Int. Conference on Pattern Recognition, Atlantic City, pp 88-92, June 1990

73. Hwang, T.L., Clark, J.J., and Yuille, A.L., "A Depth Recovery Algorithm Using Defocus Information", Proceedings of the 1989 IEEE Computer Vision and Pattern Recognition Conference, San Diego, pp 476-482, June 1989

74. Clark, J.J., "Sampling and Reconstruction of Non Bandlimited Signals", Proceedings of the 1989 SPIE Conference on Visual Communications and Image Processing, Philadelphia, pp 1556-1562, November 1989

75. Clark, J.J. and Friedman, D.J., "Local Processing of Sensor Array Data Using Current Mode Circuitry", Proceedings of the 1989 International Electron Devices Meeting, Washington, pp 507-510, December 1989

76. Clark, J.J. and Ferrier, N.J., "Control of Visual Attention in Mobile Robots", Proceedings of the 1989 IEEE Conference on Robotics and Automation, Scottsdale Arizona, pp 826-831, May 1989

77. Clark, J.J. and Ferrier, N.J., "Modal Control of an Attentive Vision System", Proceedings of the Second International Conference on Computer Vision, Tarpon Springs Florida, pp 514-523, December 1988

78. Clark, J.J., "CMOS Magnetic Sensor Arrays", Technical Digest of the 1988 Solid-State Sensor and Actuator Workshop, Hilton Head Island, South Carolina, pp 72-75, June 1988

79. Clark, J.J., "A Magnetic Field Based Compliance Matching Sensor for High Resolution, High Compliance Tactile Sensing", Proceedings of the 1988 IEEE Conference on Robotics and Automation, Philadelphia, PA, pp 772-778, April 1988

80. Clark, J.J., "Singularities of Contrast Functions in Scale Space", Proceedings of the First International Conference on Computer Vision, London, pp 491-495, June 1987

PhD Student Supervision

Total completed – 15, Current – 4.

- Mehdi Rezagholizadeh, tbd, **Ph.D.**, Electrical and Computer Engineering, McGill University, September 2011 –
- Yao Tang, "Attention Tracking", **Ph.D.**, Electrical and Computer Engineering, McGill University, September 2009 –
- Meltem Demirkus, "Video Surveillance", **Ph.D.**, Electrical and Computer Engineering, McGill University, September 2008 – (co-supervised with Prof. Tal Arbel)
- Amin Haji-Abolhassani, "Attention Tracking", **Ph.D.**, Electrical and Computer Engineering, McGill University, January 2008 –
- Carmen Au, "Integration and Display of Multiple video sources", **Ph.D.**, Electrical and Computer Engineering, McGill University, September 2006 – September 2011
- Sandra Skaff, "Maximum Entropy Spectral Modeling", **Ph.D.**, Electrical and Computer Engineering, McGill University, January 2003 – September 2009.
- Li Jie, "Attention Tracking", **Ph.D.**, Electrical and Computer Engineering, McGill University, January 2002 - June 2008.
- Tina Ehtiati, "Attention-directed Object Recognition", **Ph.D.**, Electrical and Computer Engineering, McGill University, September 2002 - June 2006.
- Muhua Li, "Neural Learning using Perceptual Stability", **Ph.D.**, Electrical and Computer Engineering, McGill University, September 2000– June 2005.
- Diana Hernandez-Alonso, "Spatial models of Image Surrounds", **Ph.D.,** Electrical and Computer Engineering, McGill University, September 2002–June 2005.
- Ziad Hafed, "Motor Theories of Attention", **Ph.D.**, Electrical and Computer Engineering, McGill University, September 1999-June 2003.
- Michael Weisman (co-supervised with Prof. Alan Yuille), "Competitive Prior Models in Active Stereo Vision", **Ph.D.**, Applied Mathematics, Harvard University, September 1990-May 1996.
- Navin Saxena, "Analog and Digital VLSI Architectures for Dynamical Systems", **Ph.D.,** Engineering Sciences, Harvard University, September 1990-May 1995.
- Lei Wang, "Three Dimensional Structure from Active Shadowing", **Ph.D.**, Engineering Sciences, Harvard University, September 1990-Nov. 1995. *Dr.Wang is now a professor at Northwestern University.*
- Robert Hewes, "A Mobile-Agent and Shared-Environment Model of Parallel Computation", **Ph.D.**, Engineering Sciences, Harvard University, September 1989-June 1994.
- Daniel Friedman, "A VLSI sensorimotor architecture for autonomous vehicles", **Ph.D.,** Engineering Sciences, Harvard University, September 1986-May 1992.
- Nicola Ferrier, "Trajectory control of active vision systems", **Ph.D.**, Computer Science, Harvard University, September 1986-January 1992. *Dr. Ferrier is now a professor at the University of Wisconsin.*
- Douglas Cochran (co-supervised with Prof. Roger Brockett), "Nonlinear signal compression and reconstruction", **Ph.D.**, Applied Mathematics, Harvard University, September 1985-December 1991. *Dr. Cochran is now a professor at Arizona State University.*
- Ten-Lee Hwang, "Integrating vision modules for moving edge analysis", **Ph.D.**, Computer Science, Harvard University, September 1986-December 1990.