

Curriculum Vitae

PATRICK JOSEPH LUCEY (*PhD*)

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RESEARCH INTERESTS

Artificial Intelligence, Sports Analytics, Machine Learning, Computer Vision, Multi-Agent Systems, Affective Computing, Video Analytics, Spatiotemporal Data Mining, Unstructured Data Analytics

PROFESSIONAL PREPARATION

- **2004 - 2008(Feb)** - Ph.D., Speech, Audio, Image and Video Technology Laboratory, Faculty of Built Engineering and Environment, Queensland University of Technology, Brisbane, Australia. (*Dissertation Title: "Lipreading Across Multiple Views" [Nominated for Outstanding Thesis Award]*)
- **2000 - 2003** - B.Eng., Electrical and Electronic Engineering (1st class honors - GPA 6.66 out of 7), University of Southern Queensland, Toowoomba, Australia, 2003 (*Undergraduate Thesis Title: "Algorithms for Face Recognition"*)

RESEARCH EXPERIENCE

- **2015(Oct) - Present** - Director of Data Science, STATS, Chicago, IL, USA.
- **2013(Sept) - 2015(Sept)** - Associate Research Scientist, Disney Research Pittsburgh, Pittsburgh, PA, USA.
- **2009 - Present** - Research Project Coordinator (Adjunct), Queensland University of Technology (SAIVT Laboratory), Brisbane, Australia. (*Supervise PhD students*)
- **2010(Nov) - 2013(Aug)** - Postdoctoral Associate, Disney Research Pittsburgh, Pittsburgh, PA, USA.
- **2009(Jan) - 2010 (Oct)** - Postdoctoral Research Fellow, Robotics Institute, Carnegie Mellon University/ Department of Psychology, University of Pittsburgh, Pittsburgh, PA, USA. (*Working on automatically detecting pain, depression and facial paralysis from video*)
- **2008(Feb) - 2008(Dec)** - Postdoctoral Research Fellow, Queensland University of Technology (SAIVT Laboratory), Brisbane, Australia. (*Working on audio-visual speech recognition*)
- **2004 - 2008(Feb)** - PhD Research Student, Queensland University of Technology (SAIVT Laboratory), Brisbane, Australia.
- **2007(Sept) - 2007(Dec)** - Visiting Scholar at Robotics Institute, Carnegie Mellon University, Pittsburgh, PA, USA.
- **2006(Feb) - 2006(June)** - Visiting Research Intern, Human Languages Department, IBM T.J. Watson Research Center, Yorktown Heights, NY, USA.
- **2003** - Undergraduate Researcher, EE Department, University of Southern Queensland, Toowoomba, Australia. (*Working on face recognition*)

RESEARCH GRANTS

- Partner-Investigator, "Affective sensing technology for the detection and monitoring of depression and melancholia", *ARC Discovery Project Grant* (2013-2015, \$360,000).

WORKSHOP/CONFERENCE ORGANIZATION

- KDD Workshop on Large-Scale Sports Analytics (co-organizer), at ACM SIGKDD, Sydney, Australia, (August), 2015.
- Dagstuhl Seminar on Modeling and Simulation of Sports Games, Sports Movements, and Adaptations to Training (co-organizer), Dagstuhl, Germany, (September), 2015.
- KDD Workshop on Large-Scale Sports Analytics (co-organizer), at ACM SIGKDD, New York City, NY, USA, (August), 2014.
- ICCV Workshop on Vision-Based Sports Analytics (co-organizer), at ICCV, Sydney, Australia, (December), 2013.
- International Conference on Auditory-Visual Speech Processing (co-organizer), Tangalooma, Australia, (September), 2008.

PATENTS FILED

- **P. Lucey**, R. Navarathna, P. Carr, D. Candela and I. Matthews, “Methods and systems for measuring group behavior”, *US Patent App. 13/844,329*, 2013.
- **P. Lucey**, A. Bialkowski, I. Matthews, P. Carr and E. Foote, “Characterizing motion patterns of one or more agents from spatiotemporal data”, *US Patent App. 13/591,079*, 2012.
- **P. Lucey**, A. Bialkowski, P. Carr, I. Matthews and Y. Yue, “Analysis of team behaviors using role and formation information”, *2006.066210*.
- **P. Lucey**, P. Carr, I. Matthews, Y. Yue and A. Bialkowski, “Improved expected goal value estimation in soccer using strategic features from spatiotemporal data/dynamic sports play prediction using spatiotemporal tracking data”, *40189/06301*.
- **P. Lucey** and X. Wei, “Future event prediction using augmented conditional random field”, *40189/05801*.
- P. Carr, Y. Sheikh, E. Foote, **P. Lucey** and I. Matthews, “System and interface for multi-media production”, *063577*.

INVITED TALKS

- **P. Lucey**, “Quantifying Behaviors in Professional Sports using Spatiotemporal Data”, *INFORMS Conference on Business Analytics & Operations Research*, Huntington Beach, CA, USA, (April), 2015.
- **P. Lucey**, “Predicting Behaviors in Sports and Movies from Large Amounts of Unstructured Data”, *CMU Qatar*, Doha, Qatar, (March), 2015.
- **P. Lucey**, “Analyzing Decisions in Sports Using Tracking Data (Guest Lecturer)”, *Managerial Accounting (MBA course)*, *Tepper School of Business, Carnegie Mellon University*, Pittsburgh, USA, (February), 2015.
- **P. Lucey**, “Quantifying Team Behaviors in Sports using Spatiotemporal Data”, *Disney Data Analytics Conference*, Orlando, USA, (September), 2014.
- **P. Lucey**, “Discovering Team Behaviors using Spatiotemporal Data”, *CMU Qatar*, Doha, Qatar, (March), 2014.
- **P. Lucey**, “The Next Stage of Sports Analytics (Guest Lecturer)”, *Managerial Accounting (MBA course)*, *Tepper School of Business, Carnegie Mellon University*, Pittsburgh, USA, (February), 2014.
- **P. Lucey**, “Sports Analytics v2.0: Assessing Team Strategy Using Spatiotemporal Data”, *Wolfram Data Summit*, Washington DC, USA, (September), 2013.
- **P. Lucey**, “The Next Stage of Sports Analytics (Guest Lecturer)”, *Managerial Accounting (MBA course)*, *Tepper School of Business, Carnegie Mellon University*, Pittsburgh, USA, (February), 2013.
- **P. Lucey**, “Creating a Computerized Sports Expert for Live-Action Sports”, *Australian Institute of Sport*, Canberra, Australia, (August), 2012.
- **P. Lucey**, “Creating a Computerized Sports Expert for Live-Action Sports”, *University of Birmingham*, Birmingham, England, (May), 2012.
- **P. Lucey**, “Creating a Computerized Sports Expert for Live-Action Sports”, *Operations Research Seminar, Tepper School of Business, Carnegie Mellon University*, Pittsburgh, USA, (April), 2012.
- **P. Lucey**, “Decision Making & Sport Analytics (Guest Lecturer)”, *Managerial Accounting (MBA course)*, *Tepper School of Business, Carnegie Mellon University*, Pittsburgh, USA, (February), 2012.
- **P. Lucey**, “Measuring the Immeasurable: Using Faces and Computer-Vision to Improve Clinical Decision-Making”, *Australian Hand Therapist Association (AHTA) National Conference*, Brisbane, Australia (October), 2009.

ACADEMIC AWARDS

- **2014** - Best Paper Award, WACV 2014.
- **2007** - Best Student Paper Award, INTERSPEECH 2007.
- **2005** - Australian Speech Science & Technology Assoc. (ASSTA) PhD award
- **2004-2008** - Australian Postgraduate Award (APA), Faculty of BEE Stipend recipient
- **2003** - Institute of Electrical Engineers Prize (top marks in final year of degree)
- **2002** - Ergon Energy Systems Strand Award (top marks in 3rd year of degree)
- **2000-2003** - University of Southern Queensland Regional Scholarship recipient
- **2000** - Ergon Energy Scholarship recipient

REVIEWING ACTIVITIES

Conferences:

- CVPR (2012-2015), ICCV(2013, 2015), ACM Multimedia (2015), ECCV (2012, 2014), INTERSPEECH (2006-2010), AVSP (2008, 2010), Face and Gesture (2011, 2013, 2015)

Journals:

- IEEE Trans. PAMI, IEEE Trans. KDE, IEEE Trans. Affective Computing, IEEE Trans SMCB, Image and Vision Computing

DATASETS

- The Extended Cohn-Kanade Database (CK+) - (<http://www.pitt.edu/~emotion/ck-spread.htm>)
- The UNBC-McMaster Shoulder Pain Archive Database - (<http://www.pitt.edu/~jeffcohn/PainArchive/index.htm>)

PROGRAMMING SKILLS

- Matlab/Octave, C/C++, Objective-C/Cocoa, Bash Scripting, Python, SQL.

- Constructing systems across most platforms (e.g., Windows, Linux, MAC OSX).

PRESS COVERAGE

- IEEE Spectrum (13th March 2015), “Disney Research System Predictions Soccer Goals” (<http://spectrum.ieee.org/tech-talk/computing/software/disney-research-system-predicts-soccer-goals>)
- ESPN the Magazine (20th February 2015), “Eight Big Ideas from MIT Sloan’s Research Paper Competition” (http://espn.go.com/espn/story/_/id/12352990/mit-sloan-sports-papers-identify-next-wave-analytics)
- Gizmag (17th December 2014), “Disney Research Models Analyze and Predict Player Behavior in Basketball and Soccer” (<http://www.gizmag.com/disney-research-basketball-soccer-models-analysis/35259/>)
- ESPN the Magazine (20th February 2014), “What’s the big idea?: It’s a whole new ballgame, and we’ve got the groundbreaking studies to prove it” (http://espn.go.com/espn/story/_/id/10476432/mit-sloan-sports-analytics-papers-redefine-analytics-espn-magazine)
- Science Newsline (27th February 2014), “Disney Research Soccer Formations Analysis Suggests Home Advantage is Result of Execution”, (<http://www.sciencenewsline.com/articles/2014022715030009.html>)
- Science Newsline (27th February 2014), “Disney Researchers Look Beyond Basketball Stats to Analyze Team Movement in Getting Shots”, (<http://www.sciencenewsline.com/articles/2014022715030008.html>)
- Orlando Sentinel (13th August 2013), “Disney Research scientists find surprising results while analyzing soccer games”, (http://articles.orlandosentinel.com/2013-08-13/the-daily-disney/os-disney-research-scientists-analyze-soccer-games-20130813_1_orlando-city-soccer-disney-research-soccer-games)
- PHYS.ORG (13th August 2013), “Disney Researchers use automated analysis to find weaknesses in soccer coaching strategy” (<http://phys.org/news/2013-08-disney-automated-analysis-weakness-soccer.html>)
- ComputerWeekly (27th June 2013), “Tennis analytics add prediction to the game in week of shock defeats”, (<http://www.computerweekly.com/news/2240187026/Tennis-analytics-adds-prediction-to-the-game-in-week-of-shock-defeats>)
- PHYS.ORG (28th June 2013), “Disney Research automates analysis of field hockey team behaviors” (<http://phys.org/news/2013-06-disney-automates-analysis-field-hockey.html>)

PUBLICATIONS

Scholarly Books:

1. R. Goecke, **P. Lucey** and S. Lucey. Proceedings of the International Conference on Auditory-Visual Speech Processing 2008 (AVSP 2008), Moreton Island, Australia, 26-29 September 2008, AVISA. ISBN: 978-0-646-49503-3.

Book Chapters:

1. A. Bialkowski, **P. Lucey**, P. Carr, S. Sridharan and I. Matthews, “Representing Team Behaviours from Noisy Data Using Player Role”, in *Computer Vision in Sports* (T. Moeslund, G. Thomas and A. Hilton, eds.), Springer 2015, pp. 247-270. ISBN: 978-3-319-09396-3
2. **P. Lucey**, G. Potamianos and S. Sridharan, “Visual Speech Recognition Across Multiple Views”, in *Visual Speech Recognition: Lip Segmentation and Mapping* (A. Liew and S. Wang, eds.), IGI Global, 2009, pp. 294-326. ISBN:978-1-60566-186-5

Refereed Journal Articles:

1. S. Chew, **P. Lucey**, S. Lucey, J. Cohn, J. Saragih, I. Matthews and S. Sridharan, “In the Pursuit of Effective Affective Computing: The Relationship between Features and Registration”, in *IEEE Transactions on Systems, Man and Cybernetics, Part B: Cybernetics*, 2012.
2. R. Navarathna, D. Dean, S. Sridharan and **P. Lucey**, “Multiple Cameras for Audio-Visual Speech Recognition in an Automotive Environment”, in *Computer Speech & Language*, 2012.
3. **P. Lucey**, J. Cohn, K. Prkachin, P. Solomon, S. Chew and I. Matthews, “Painful Monitoring: Automatic Pain Monitoring using the UNBC-McMaster Shoulder Pain Expression Archive Database” in *Image and Vision Computing*, 2011.
4. **P. Lucey**, J. Cohn, S. Sridharan, J. Howlett, S. Lucey and K. Prkachin, “Identifying Pain Segments in Video Through Action Unit Recognition” in *IEEE Transactions on Systems, Man and Cybernetics, Part B: Cybernetics*, 2010.
5. D. Dean, **P. Lucey**, S. Sridharan and T. Wark, “Fused HMM-Adaptation of Synchronous HMMs for Audio-Visual Speech Recognition”, in *Digital Signal Processing*, 2008.

Refereed Conference Papers:

1. **P. Lucey**, A. Bialkowski, M. Monfort, P. Carr and I. Matthews, “Quality vs Quantity: Improved Shot Prediction in Soccer using Strategic Features from Spatiotemporal Data”, in *MIT Sloan Sports Analytics Conference (MITSSAC)*, (Boston, USA), 2015.
2. Y. Yue, **P. Lucey**, P. Carr, A. Bialkowski and I. Matthews, “Learning Fine-Grained Spatial Models for Dynamic Sports Play Prediction”, in the *International Conference on Data Mining (ICDM)*, (Shenzhen), 2014.
3. A. Bialkowski, **P. Lucey**, P. Carr, Y. Yue and I. Matthews, “Large-Scale Analysis of Soccer Matches using Spatiotemporal Tracking Data”, in the *International Conference on Data Mining (ICDM)*, (Shenzhen), 2014.
4. Y. Yue, **P. Lucey**, P. Carr, A. Bialkowski and I. Matthews, “Identifying Team Style in Soccer using Formations Learned from Spatiotemporal Tracking Data”, in *Spatial and Spatiotemporal Data Mining Workshop (SSTDM)* at the *International Conference on Data Mining (ICDM)*, (Shenzhen), 2014.
5. X. Wei and **P. Lucey**, “Forecasting Event using an Augmented Hidden Conditional Random Field”, in *Asian Conference on Computer Vision (ACCV)*, (Singapore), 2014.
6. **P. Lucey**, A. Bialkowski, P. Carr, Y. Yue and I. Matthews, “How to Get an Open Shot: Analyzing Team Movement in Basketball using Tracking Data”, in *MIT Sloan Sports Analytics Conference (MITSSAC)*, (Boston, USA), 2014.
7. A. Bialkowski, **P. Lucey**, P. Carr, Y. Yue and I. Matthews, “Win at Home and Draw Away: Automatic Formation Analysis Highlighting the Differences in Home and Away Team Behaviors”, in *MIT Sloan Sports Analytics Conference (MITSSAC)*, (Boston, USA), 2014.
8. R. Navarathna, **P. Lucey**, P. Carr, L. Carter, S. Sridharan and I. Matthews, “Predicting Movie Ratings from Audience Behaviors”, in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, (Steamboat Springs, USA), 2014.
9. L. Sha, **P. Lucey**, S. Morgan, S. Sridharan and D. Pease, “Understanding and Analyzing a Large Collection of Archived Swimming Videos”, in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, (Steamboat Springs, USA), 2014. [**BEST PAPER AWARD**]
10. A. Ghasemi, X. Wei, **P. Lucey**, S. Sridharan and C. Fookes, “Social Signal Processing for Pain Monitoring using a Hidden Conditional Random Field”, in *IEEE Workshop on Statistical Signal Processing (SSP)*, (Gold Coast, Australia), 2014.
11. **P. Lucey**, D. Oliver, P. Carr, J. Roth and I. Matthews, “Assessing Team Strategy using Spatiotemporal Data”, accepted to the *ACM SIGKDD Conference on Knowledge, Discovery and Data Mining (KDD)*, (Chicago, USA), 2013.
12. **P. Lucey**, A. Bialkowski, P. Carr, S. Morgan, I. Matthews and Y. Sheikh, “Representing and Discovering Adversarial Team Behaviors using Player Roles”, accepted to the *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, (Portland, USA), 2013.
13. E. Foote, P. Carr, **P. Lucey**, Y. Sheikh and I. Matthews, “One-Man-Band: A Touch Screen Interface for Live Multi-Camera Sports Broadcasts”, in *ACM Multimedia*, (Barcelona, Spain), 2013.
14. X. Wei, L. Sha, **P. Lucey**, S. Morgan and S. Sridharan, “Large Scale Analysis of Formations in Soccer”, in *Digital Imaging Computing: Techniques and Applications (DICTA)*, (Hobart, Australia), 2013.
15. X. Wei, **P. Lucey**, S. Morgan and S. Sridharan, “Predicting Shot Locations in Tennis using Spatiotemporal Data”, in *Digital Imaging Computing: Techniques and Applications (DICTA)*, (Hobart, Australia), 2013.
16. A. Bialkowski, **P. Lucey**, X. Wei and S. Sridharan, “Person Re-Identification using Group Information”, in *Digital Imaging Computing: Techniques and Applications (DICTA)*, (Hobart, Australia), 2013.
17. L. Sha, **P. Lucey**, S. Sridharan, S. Morgan and D. Pease, “Swimmer Localization from a Moving Camera”, in *Digital Imaging Computing: Techniques and Applications (DICTA)*, (Hobart, Australia), 2013.
18. A. Bialkowski, **P. Lucey**, P. Carr, S. Denman, S. Sridharan and I. Matthews, “Recognizing Team Activities from Noisy Data”, accepted to the *IEEE International Workshop on Computer Vision in Sports (CVSports) - at the International Conference on Computer Vision and Pattern Recognition*, (Portland, USA), 2013.

19. X. Wei, **P. Lucey**, S. Morgan and S. Sridharan, "Sweet-Spot: Using Spatiotemporal Data to Discover and Predict Shots in Tennis", in *MIT Sloan Sports Analytics Conference (MITSSAC)*, (Boston, USA), 2013.
20. **P. Lucey**, A. Bialkowski, P. Carr, I. Matthews and Y. Sheikh, "Characterizing Multi-Agent Team Behavior from Partial Team Tracings: Evidence from the English Premier League", in *Association on the Advancement of Artificial Intelligence (AAAI)*, (Toronto, Canada), 2012.
21. S. Chew, **P. Lucey**, S. Lucey and S. Sridharan, "Improved Facial Expression Recognition via Uni-Hyperplane Classification", in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, (Providence, USA), 2012.
22. A. Bialkowski, S. Denman, **P. Lucey**, S. Sridharan and C. Fookes, "A Database for Person Re-Identification in Multi-Camera Surveillance Networks", in the International Conference on Digital Image Computing Techniques and Applications (DICTA), (Fremantle, Australia), 2012.
23. **P. Lucey**, J.F. Cohn, K.M. Prkachin, P.E. Solomon and I. Matthews, "PAINFUL DATA: The UNBC-McMaster Shoulder Pain Expression Archive Database", in the *Proceedings IEEE International Conference on Automatic Face and Gesture Recognition* (Santa Barbara, USA), 2011.
24. R. Navarathna, T. Kleinschmidt, D. Dean, S. Sridharan and **P. Lucey**, "Can Audio-Visual Speech Recognition outperform Acoustically Enhanced Speech Recognition in Automotive Environments?", in the *Proceedings of the Conference of the International Speech Communication Association – Interspeech*, (Florence, Italy), 2011.
25. R. Navarathna, D. Dean, S. Sridharan, C. Fookes and **P. Lucey**, "Visual Voice Activity Detection using Frontal versus Profile Views", in the *Proceedings of Digital Imaging Computing: Techniques and Applications (DICTA)*, (Noosa, Australia), 2011.
26. S. Chew, R. Rana, **P. Lucey**, S. Lucey and S. Sridharan, "Sparse Temporal Representations for Facial Expression Recognition", in the Pacific-Rim Symposium on Image and Video Technology, (Gwangji, South Korea), 2011.
27. **P. Lucey**, J.F. Cohn, T. Kanade, J. Saragih and I. Matthews, "The Extended Cohn-Kanade Dataset (CK+): A complete dataset for action unit and emotion-specified expression", in the *Proceedings of the International Workshop on CVPR for Human Communicative Behavior Analysis*, (San Francisco, USA), 2010.
28. **P. Lucey**, S. Lucey and J.F. Cohn, "Registration Invariant Representations for Expression Detection", in the *Proceedings of Digital Imaging Computing: Techniques and Applications (DICTA)*, (Sydney, Australia), 2010.
29. R. Navarathna, D. Dean, **P. Lucey**, S. Sridharan and C. Fookes, "Dynamic Visual features for Visual-Speech Activity Detection", in the *Proceedings of the International Conference on Auditory-Visual Speech Processing*, (Hakone, Japan), 2010.
30. R. Navarathna, D. Dean, **P. Lucey**, S. Sridha, C. Fookes, "Recognising Audio-Visual Speech in Vehicles using the AVICAR Database", in the *Proceedings of the International Conference on Speech, Science and Technology*, (Sydney, Australia), 2010.
31. **P. Lucey**, J. Cohn, S. Lucey, I. Matthews, S. Sridharan and K. Prkachin, "Automatically Detecting Pain Using Facial Actions", in the Proceedings of the *International Conference on Affective Computing & Intelligent Interaction*, (Amsterdam, The Netherlands), 2009, pp. 1-8.
32. **P. Lucey**, J. Cohn, S. Lucey, I. Matthews, S. Sridharan and K. Prkachin, "Automatically Detecting Action Units from Faces of Pain: Comparing Shape and Appearance Features" in the Proceedings of the International Workshop on CVPR for Human Communicative Behavior Analysis, (Miami, USA), 2009, pp. 12-18.
33. A. Ryan, J. Cohn, S. Lucey, J. Saragih, **P. Lucey**, F. De la Torre and A. Rossi, "Automated Facial Expression Recognition System", in the Proceedings of the *International Carnahan Conference on Security Technology*, (Zurich, Switzerland), 2009, pp. 172-177.
34. **P. Lucey**, S. Sridharan and D. Dean, "Continuous Pose-Invariant Lipreading", in *Proceedings of the Conference of the International Speech Communication Association – Interspeech*, (Brisbane, Australia), 2008, pp. 2679-2682.
35. **P. Lucey**, G. Potamianos and S. Sridharan, "Patch-Based Analysis of Visual Speech from Multiple Views", in *Proceedings of the International Conference on Auditory-Visual Speech Processing*, (Tangalooma, Australia), 2008, pp. 69-74.
36. **P. Lucey**, J. Howlett, J. Cohn, S. Lucey, S. Sridharan and Z. Ambadar, "Improving Pain Recognition Through Better Utilisation of Temporal Information", in *Proceedings of the*

- International Conference on Auditory-Visual Speech Processing*, (Tangalooma, Australia), 2008, pp. 167-172.
37. **P. Lucey**, S. Lucey, M. Cox, S. Sridharan and J. Cohn, "Comparing Object Alignment Algorithms with Appearance Variation: Forward-Additive vs Inverse-Composition", in *Proceedings of the IEEE International Workshop on Multimedia Signal Processing*, (Cairns, Australia), 2008, pp. 337-342.
 38. **P. Lucey** and S. Sridharan, "A Visual Front-End for a Continuous Pose-Invariant Lipreading System", to appear in *Proceedings of the International Conference on Signal Processing and Communication Systems*, (Gold Coast, Australia), 2008, pp. 1-6.
 39. D. Dean, S. Sridharan and **P. Lucey**, "Cascading Appearance-Based Features for Visual Speaker Verification", in *Proceedings of the Conference of the International Speech Communication Association – Interspeech*, (Brisbane, Australia), 2008, pp. 359-362.
 40. G. Potamianos, J. Huang, E. Marcheret, V. Libal, R. Balchandran, M. Epstein, L. Seredi, M. Labska, L. Ures, M. Black and **P. Lucey**, "Far-Field Multimodal Speech Processing and Conversational Interaction in Smart Spaces", in the Workshop on Hands-Free Speech Communication and Microphone Arrays, (Trento, Italy), 2008, pp. 119-123.
 41. **P. Lucey**, G. Potamianos and S. Sridharan, "An Unified Approach to Multi-Pose Audio-Visual ASR", in *Proceedings of the Conference of the International Speech Communication Association – Interspeech*, (Antwerp, Belgium), 2007, pp. 650-653. [awarded best student paper].
 42. **P. Lucey**, G. Potamianos and S. Sridharan, "An Extended Pose-Invariant Lipreading System", in Proceedings of the International Workshop on Auditory-Visual Speech Processing – AVSP, (Hilvarenbeek, The Netherlands), 2007, pp. 176-180.
 43. D. Dean, **P. Lucey**, S. Sridharan and T. Wark, "Fused HMM-Adaptation of Multi-Stream HMMs for Audio-Visual Speech Recognition", in Proceedings of the Conference of the International Speech Communication Association – Interspeech, (Antwerp, Belgium), 2007, pp. 666-669.
 44. D. Dean, **P. Lucey**, S. Sridharan and T. Wark, "Weighting and Normalisation of Synchronous HMMs for Audio-Visual Speech Recognition", in Proceedings of the International Workshop on Auditory-Visual Speech Processing – AVSP, (Hilvarenbeek, The Netherlands), 2007, pp. 110-115.
 45. **P. Lucey** and G. Potamianos, "Lipreading Using Profile Versus Frontal Views", in *Proceedings of the International Workshop on Multimedia Signal Processing (MMSP '06)*, 2006, pp. 24-28.
 46. **P. Lucey** and S. Sridharan, "Patch-Based Representation of Visual Speech", in *Proceedings of the HCSNet Workshop on the use of Vision in HCI (VisHCI)*, (Canberra, Australia), 2006.
 47. D. Dean, **P. Lucey**, S. Sridharan and T. Wark, "Audio-Visual Speaker Verification using Continuous Fused HMMs", in *Proceedings of the HCSNet Workshop on the use of Vision in HCI (VisHCI)*, (Canberra, Australia), 2006.
 48. G. Potamianos and **P. Lucey**, "Audio-Visual ASR from Multiple Views Inside Smart Rooms", in *Proceedings of the IEEE Conference on Multisensor Fusion and Integration (MFI '06)*, 2006, pp. 35-40.
 49. D. Dean, **P. Lucey**, T. Wark and S. Sridharan, "An examination of audio-visual fused HMMs for speaker recognition", in *Proceedings Second Workshop on Multimodal User Authentication*, Toulouse, France, 2006.
 50. **P. Lucey**, S. Lucey and S. Sridharan, "Using a Free-Parts Representation for Visual Speech Recognition", in *Proceedings of Digital Imaging Computing: Techniques and Applications (DICTA)*, Cairns, Australia, 2005, pp. 379-384.
 51. **P. Lucey**, D. Dean and S. Sridharan, "Problems associated with current area-based visual speech feature extraction techniques", in *Proceedings of the Auditory-Visual Speech Processing International Conference (AVSP)*, British Columbia, Canada, 2005, pp. 73-78.
 52. S. Lucey and **P. Lucey**, "Improved speech reading through a free-parts representation", in Proceedings of the Auditory-Visual Speech Processing International Conference (AVSP), British Columbia, Canada, 2005, pp. 85-86.
 53. D. Dean, **P. Lucey** and S. Sridharan, "Audio-Visual Speaker Identification using the CUAVE Database", in *Proceedings of the Auditory-Visual Speech Processing International Conference (AVSP)*, British Columbia, Canada, 2005, pp. 97-101.

54. D. Dean, **P. Lucey**, S. Sridharan and T. Wark “Comparing audio and visual information for speech processing”, in *International Symposium of Signal Processing and its Applications (ISSPA)*, Sydney, Australia, 2005, pp. 58-61.
55. **P. Lucey**, T. Martin and S. Sridharan “Confusability of phonemes grouped according to their viseme classes in noisy environments”, in *Proceedings of the Australian International Conference on Speech, Science and Technology (SST)*, Sydney, Australia, 2004, pp. 265-270.

REFEREES

- Professor Jessica Hodgins (jkh@disneyresearch.com), VP of Research at Disney Research & Director of Disney Research Labs in Pittsburgh, Boston and Los Angeles/Professor of Computer Science and Robotics at Carnegie Mellon University.
- Dr Iain Matthews (iainm@disneyresearch.com), Associate Director and Principal Research Scientist at Disney Research, Pittsburgh.
- Professor Jeffrey F. Cohn (jeffcohn@cs.cmu.edu), Professor of Psychology and Psychiatry, University of Pittsburgh, Adjunct Professor, Robotics Institute, Carnegie Mellon University.
- Dr Stuart Morgan (stuart.morgan@ausport.gov.au), Lead Analyst (Projects), Performance Research, Australian Institute of Sport, Australian Sports Commission.
- Professor Sridha Sridharan (s.sridharan@qut.edu.au), Science and Engineering Faculty, Electrical Engineering, Computer Science, Vision and Signal Processing.