

## LOUIS-PHILIPPE MORENCY

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## EDUCATION

**Ph.D. in Computer Science** October 2006  
Massachusetts Institute of Technology Cambridge, MA  
Thesis title: Context-based Visual Feedback Recognition  
Committee: Trevor Darrell (chair), Michael Collins, Stephanie Seneff, Candace Sidner

**M.S. in Computer Science** June 2002  
Massachusetts Institute of Technology Cambridge, MA  
Thesis title: Stereo-Based Head Pose Tracking Using Iterative  
Closest Point and Normal Flow Constraint

**B.S. in Computer Engineering** June 2000  
Laval University Quebec City, Canada

## PROFESSIONAL EXPERIENCE

**Language Technologies Institute, Carnegie Mellon University** 2015-present  
Assistant Professor Pittsburgh, PA  
Director of the Multimodal Communication and Machine Learning Laboratory

**Institute of Creative Technologies, University of Southern California** 2009-2014  
Research Assistant Professor Los Angeles, CA  
Director of the Multimodal Communication and Machine Learning Laboratory

**Institute of Creative Technologies, University of Southern California** 2007-2009  
Research Scientist Los Angeles, CA  
Research topics: multimodal perception, interactions with virtual agents, nonverbal behaviors generation, context-based recognition.

**Massachusetts Institute of Technology** 2006-2007  
Postdoctoral Associate Cambridge, MA  
Research topics: visual feedback recognition, virtual human, multi-modal integration.

**Honda Research Institute USA** Summer 2002  
Research Intern Mountain View, CA  
Research topic: robot localization algorithm for indoor environment using stereo camera.

**Massachusetts Institute of Technology** 2000-2006  
Research Assistant Cambridge, MA  
Research topics: context-based visual gesture recognition, human-computer interaction, head pose estimation, 3D view registration.

**Computer vision and systems laboratory, Laval University** 1998-1999  
Research Assistant Quebec city, Canada  
Research topic: three-dimensional object recognition and pose estimation.

## AWARDS AND HONORS

- **Emerging Investigator Award**, ACM Siggraph Symposium on Eye Tracking Research & Applications, 2016
- **Best paper award**, ACM International Conference on Multimodal Interaction, 2015
- **Best demo paper award**, International Conference on Affective Computing and Intelligent Interaction (ACII), 2015
- Selected by the **World Economic Forum** as one of the **40 Young Scientist** under the age of 40 to participate alongside business and political leaders in the Annual Meeting of the New Champions 2015 in Dalian, China.
- NetExplo 2014 Award, in partnership with UNESCO, as one of the year's top ten most promising digital initiatives
- **Best paper award**, IEEE Conference on Automatic Face and Gesture Recognition 2013.
- Winner of the First **Audio-Visual Emotion Challenge** (vision-only sub-challenge) organized as part of ACII 2011.
- **Best paper award**, The 9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Virtual Human track, 2010.
- **Advisory Board Commendation**, International Conference on Multimodal Interfaces, 2009. For outstanding contribution as Publication chair.
- **Best paper award**, ACM International Conference on Multimodal Interfaces, 2008.
- **Best paper award**, IEEE International Conference on Automatic Face and Gesture Recognition, 2008.

- **Best paper award**, International Conference on Intelligent Virtual Agents, 2008.
- **AI's 10 to Watch**: 10 young stars in the field of AI, IEEE Intelligent Systems, 2008.
- **Best paper award**, ACM International Conference on Multimodal Interfaces, 2006.
- **Best paper award**, ACM International Conference on Multimodal Interfaces, 2005.
- Recent award nominations:
  - Best paper award at ACM International Conference on Intelligent User Interfaces (IUI 2014)
  - Best paper award at 13th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2014)
  - Best paper award at 14th Annual SIGdial Meeting on Discourse and Dialogue (SIGdial), 2013.
  - Best student paper award at International Conference on Affective Computing and Intelligent Interaction (ACII), 2013.
  - Best paper award at 13th Annual SIGdial Meeting on Discourse and Dialogue (SIGdial), 2012.

## GRANTS AND CONTRACTS

- Co-Principal Investigator, *GLAIVE: Graphics-based Learning Approach Integrated with Vision Elements - Phase 2*, \$283,140, Intelligence Advanced Research Projects Activity (**IARPA**), 3/2/16-9/1/2017
- Principal Investigator. *MultiSense InMind: Multimodal Behavior Analysis*. \$100,000, Yahoo! Research, InMind Project, 1/1/2016-12/31/2016
- Co-principal Investigator. *Multi-modal distraction detection*. \$85,000, Department of Transportation, University Transportation Center for Safety, 1/1/2016-12/31/2016
- Co-principal Investigator. *Partners in Learning: Building Rapport with a Virtual Peer Tutor*. \$550,000, National Science Foundation (**NSF**), Information and Intelligent Systems: Cyberlearning & Future Learning Technologies, 9/1/2015-8/31/2017
- Co-principal Investigator. *Developing Curiosity in the Science Classroom through Technology-Supported Role-Taking*. \$900,000, The Heinz Endowments, 8/1/2015-7/31/2018
- Co-principal Investigator. *Multimodal Social Grounding for Human-Robot Dialogue*. \$64,365, U.S. Army / University of Southern California, 7/1/2015-6/30/2016

- Co-principal Investigator. Towards Natural Dialogue with Robots in a Collaboration Exploration Task. \$33,736, Army Research Office / University of Southern California, 7/1/2015-6/30/2016
- Principal Investigator. *Modeling Nonverbal Dynamics of User Engagement*. \$100,000, Yahoo! Research, InMind Project, 1/1/2015-12/31/2015
- Co-principal Investigator. *Investigating an Interactive Computational Framework for Nonverbal Interpersonal Skills Training*. \$500,000, National Science Foundation (**NSF**), Information and Intelligent Systems: Core Programs, 8/16/2014-8/15/2017
- Co-principal Investigator. *Modeling Multimodal Communicative Behaviors for Virtual humans*. \$670,000, Department of Defense, United State Army, Army Research Laboratory (**ARL**), 11/1/2014-10/31/2015
- Co-Principal Investigator, *GLAIVE: Graphics-based Learning Approach Integrated with Vision Elements - Phase 1*, \$288,972, Intelligence Advanced Research Projects Activity (**IARPA**), 7/25/14-3/1/2016
- Lead Co-Principal Investigator. *SimSensei Kiosk*. \$740,286, Department of Defense, Defense Advanced Research Projects Agency (**DARPA**), 7/1/2013-12/31/2015
- Principal Investigator. *VH-Non-Verbal Recognition*. \$2,142,057, Department of Defense, United State Army, Army Research Laboratory (**ARL**), 11/1/2011-10/31/2014
- Principal Investigator. *Modeling Human Communications Dynamic*. \$490,102, National Science Foundation (**NSF**), IIS-1118018, 8/15/2011-7/31/2015
- Lead Co-Principal Investigator. *Detection and Computational Analysis of Psychological Signals (DCAPS)*. \$4,546,617, Department of Defense, Defense Advanced Research Projects Agency (**DARPA**), 7/18/2011-9/30/2013
- Principal Investigator. *Support for Student Participation in the ICMI-MLMI 2010*. \$24,592, National Science Foundation (**NSF**), IIS-1041411, 11/01/2010-10/31/2013
- Co-Principal Investigator. *Models for Facial Expression Recognition*. \$99,179, Department of Defense, United State Army, Army Research Laboratory (**ARL**), 12/1/2009-11/30/2010
- Principal Investigator. *VH-Nonverbal Computation*. \$1,248,057, Department of Defense, United State Army, Army Research Laboratory (**ARL**), 11/01/2009-10/31/2011
- Principal Investigator. *Computational Study of Nonverbal Social Communication*. \$495,920, National Science Foundation (**NSF**), IIS-0917321, 9/1/2009-8/31/2014

- Principal Investigator. *VH-Nonverbal Communication*. \$431,230, Department of Defense, United State Army, Army Research Laboratory (**ARL**), 11/01/2008-09/29/2009
- Co-principal Investigator. *Facial Display Video Database*. \$87,914, Department of Defense, United State Army, Army Research Laboratory (**ARL**), 11/01/2008-09/29/2009

## PUBLICATIONS

### Journal articles

1. J. Pestian, M. Sorter, B. Connolly, K. B. Cohen, C. McCullumsmith, J. Gee, L.-P. Morency, S. Scherer, L. Rohlf, [A Machine Learning Approach to Identifying the Thought Markers of Suicidal Subjects: A Prospective Multicenter Trial](#), *Journal on Suicide and Life-Threatening Behavior*, 2016 [Accepted for publication]
2. V. Venek, S. Scherer, L.-P. Morency, A. Rizzo and J. Pestian, [Adolescent Suicidal Risk Assessment in Clinician-Patient Interaction](#), *IEEE Transactions on Affective Computing*, January 2016
3. K. Bousmalis, S. Zafeiriou, L.-P. Morency, M. Pantic and Z. Ghahramani, [Variational Infinite Hidden Conditional Random Fields](#), *IEEE Transaction on Pattern Analysis and Machine Intelligence (TPAMI)*, Volume 37, Issue 9, September 2015, Pages 1917-1929
4. S. Scherer, J. Gratch, A. Rizzo and L.-P. Morency. [Self-reported symptoms of depression and PTSD are associated with reduced vowel space in screening interviews](#). *IEEE Transactions on Affective Computing*, June 2015
5. S. Park, S. Scherer, J. Gratch, P. Carnevale and L.-P. Morency. [I Can Already Guess Your Answer : Predicting Respondent Reactions during Dyadic Negotiation](#). *IEEE Transactions on Affective Computing*, Volume 6, Issue 2, April-June 2015, Pages 86-96
6. G. Lucas, J. Gratch, A. King and L.-P. Morency, [It's only a computer: Virtual humans increase willingness to disclose](#), *Computers in Human Behavior*, Volume 37, August 2014, Pages 94–100
7. S. Scherer, G. Stratou, G. Lucas, M. Mahmoud, J. Boberg, J. Gratch, A. Rizzo and L.-P. Morency, [Automatic Audiovisual Behavior Descriptors for Psychological Disorder Analysis](#), *Image and Vision Computing Journal*, Elsevier, Volume 32, Issue 10, October 2014, Pages 648–658
8. G. Stratou, S. Scherer, J. Gratch and L.-P. Morency, [Automatic Nonverbal Behavior Indicators of Depression and PTSD: The Effect of Gender](#), *Journal on Multimodal User Interfaces*, June 2014

9. V. P. Rosas, R. Mihalcea, and L.-P. Morency. [Multimodal Sentiment Analysis of Spanish Online Videos](#), *IEEE Intelligent Systems*, Special Issue on Concept-Level Opinion and Sentiment Analysis, January 2013
10. M. Wollmer, F. Weninger, T. Knaup, B. Schuller, C. Sun, K. Sagae and L.-P. Morency. [YouTube Movie Reviews: In, Cross, and Open-domain Sentiment Analysis in an Audiovisual Context](#). *IEEE Intelligent Systems*, Special Issue on Concept-Level Opinion and Sentiment Analysis, March 2013
11. K. Bousmalis, L.-P. Morency, S. Zafeiriou and M. Pantic. [Infinite Hidden Conditional Random Fields](#). *IEEE Transactions on Neural Networks and Learning Systems*, Volume 24, Issue 1, November 2012
12. D. Ozkan and L.-P. Morency. [Latent Mixture of Discriminative Experts](#). *IEEE Transactions on Multimedia*, Volume 15, Issue 2, November 2012
13. G. Stratou, A. Ghosh, P. Debevec and L.-P. Morency. [Exploring the Effect of Illumination on Automatic Expression Recognition using the ICT-3DRFE Database](#). *Image and Vision Computing*, Elsevier, Volume 30, Issue 10, October 2012
14. L.-P. Morency. [Modeling Human Communication Dynamics](#). *IEEE Signal Processing Magazine*, Volume 27, Issue 6, September 2010
15. L.-P. Morency, J. Whitehill and Javier Movellan. [Monocular Head Pose Estimation using Generalized Adaptive View-based Appearance Model](#). *Image and Vision Computing*. Elsevier, Volume 28, Issue 5, May 2010
16. L.-P. Morency, I. de Kok and J. Gratch. [A Probabilistic Multimodal Approach for Predicting Listener Backchannels](#). *Journal of Autonomous Agents and Multi-Agent Systems*, Springer, Volume 20, Issue 1, January 2010
17. J. Hendler, P. Cimiano, D. Dolgov, A. Levin, P. Mika, B. Milch, L.-P. Morency, B. Motik, J. Neville, E. B. Sudderth, and L. von Ahn. [AI's 10 to Watch](#). *Intelligent Systems*, IEEE press, May/June 2008
18. A. Rahimi, L.-P. Morency, and T. Darrell. [Reducing Drift in Differential Tracking](#). *Computer Vision and Image Understanding*, Elsevier, Volume 109, Issue 2, February 2008
19. A. Quattoni, S. Wang, L.-P. Morency, M. Collins, and T. Darrell. [Hidden-state Conditional Random Fields](#). *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Volume 29, Issue 10, October 2007
20. L.-P. Morency, C. Sidner, C. Lee, and T. Darrell. [Head Gestures for Perceptual Interfaces: The Role of Context in Improving Recognition](#). *Artificial Intelligence*. Elsevier, Volume 171, Issue 8-9, June 2007

21. C. M. Christoudias, L.-P. Morency, and T. Darrell. [Non-parametric and Light-field Deformable Models](#). *Computer Vision and Image Understanding*, Elsevier, Volume 104, Issue 1, October 2006

## Refereed conference papers

### 2016

22. M. Roemmele, S.-M. Morgens, A. S. Gordon, L.-P. Morency, [Recognizing Human Actions in the Motion Trajectories of Shapes](#), In *Proceedings of the International Conference on Intelligent User Interfaces (IUI)*, 2016
23. L. Chen, X. Li, Z. Xia, Z. Song, A. Dubrawski and L.P. Morency, [Riding an emotional roller-coaster: A multimodal study of young child's math problem solving activities](#), In *Proceedings of the Educational Data Mining Conference (EDM)*, 2016
24. T. Baltrušaitis, P. Robinson and L.-P. Morency, [OpenFace: An Open Source Facial Behavior Analysis Toolkit](#), In *Proceedings of the IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2016
25. M. Chollet, T. Wortwein, L.-P. Morency and S. Scherer, [A Multimodal Corpus for the Assessment of Public Speaking Ability and Anxiety](#), In *Proceedings of the 10<sup>th</sup> Language Resources and Evaluation Conference (LREC)*, 2016

### 2015

26. T. Wortwein, M. Chollet, A. Shapiro, S. Scherer, and L.-P. Morency. [Exploring Feedback Learning Strategies to Improve Public Speaking: An Interactive Virtual Audience Framework](#). ACM International Joint Conference on Pervasive and Ubiquitous Computing (*Ubicomp*), 2015
27. H. S. Shim, S. Park, M. Chatterjee, S. Scherer, K. Sagae, and L.-P. Morency. [Acoustic and Para-verbal Indicators of Persuasiveness in Social Multimedia](#). In *Proceedings of the 40th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2015.
28. S. Scherer, L.-P. Morency, J. Gratch, and J. Pestian. [Reduced Vowel Space is a Robust Indicator of Psychological Distress: A Cross-Corpus Analysis](#). In *Proceedings of the 40th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2015
29. T. Wortwein, L.-P. Morency and S. Scherer, [Automatic Assessment and Analysis of Public Speaking Anxiety: A Virtual Audience Case Study](#). In *Proceedings of International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2015

30. S. Ghosh, E. Laksana, S. Scherer, and L.-P. Morency, [A Multi-label Convolutional Neural Network Approach to Cross-Domain Action Unit Detection](#). In *Proceedings of International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2015
31. M. Ziaeeefard, R. Bergevin and L.-P. Morency, [Time-slice Prediction of Dyadic Human Activities](#). In *Proceedings of the British Machine Vision conference (BMVC)*, 2015
32. C.-C. Chiu, L.-P. Morency and S. Marsella. [Predicting Co-verbal Gestures: A Deep and Temporal Modeling Approach](#). In *Proceedings of the International Conference on Intelligent Virtual Agents (IVA)*, 2015.
33. M. Chatterjee, S. Park, S. Scherer and L.-P. Morency. [Combining Two Perspectives on Classifying Multimodal Data for Recognizing Speaker Traits](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2015 \*\*\* **Best Paper Award** \*\*\*
34. T. Wortwein, M. Chollet, B. Schauerte, L.-P. Morency, R. Stiefelhagen and S. Scherer. [Multimodal Public Speaking Performance Assessment](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2015
35. M. Worsley, L.-P. Morency, S. Scherer and P. Blikstein. [Exploring Behavior Representation for Learning Analytics](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2015
36. J. Gratch, S. Hill, L.-P. Morency, D. Pynadath, and D. Traum. [Exploring the implications of virtual human research for human-robot teams](#). In *Proceedings of the International Conference on Human-Computer Interaction (HCII)*, 2015.

## 2014

37. T. Baltrusaitis, P. Robinson and L.-P. Morency, [Continuous Conditional Neural Fields for Structured Regression](#). In *Proceedings of the 13th European Conference on Computer Vision (ECCV)*, 2014
38. K. Bousmalis, S. Zafeiriou, L.-P. Morency, M. Pantic and Z. Ghahramani, [Variational Hidden Conditional Random Fields with Coupled Dirichlet Process Mixtures](#). In *Proceedings of the European Conference on Machine Learning and Knowledge Discovery in Databases (ECML/PKDD)*, 2014
39. S. Park, P. Shoemark and L.-P. Morency, [Toward Crowdsourcing Micro-Level Behavior Annotations: The Challenges of Interface, Training, and Generalization](#). In *Proceedings of the International Conference on Intelligent User Interfaces (IUI)*, 2014



40. D. Devault, A. Rizzo and L.-P. Morency, [SimSensei: A Virtual Human Interviewer for Healthcare Decision Support](#). In *Proceedings of the Thirteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2014
41. J. Gratch, G. Lucas, A. King, and L.-P. Morency, [It's Only a Computer: The Impact of Human-agent Interaction in Clinical Interviews](#). In *Proceedings of the Thirteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2014
42. C. Miller, F. Quek and L.-P. Morency, [Search Strategies for Pattern Identification in Multimodal Data: Three Case Studies](#). In *Proceedings of the International Conference on Multimedia Retrieval (ICMR)*, 2014
43. M. Chatterjee, G. Stratou, S. Scherer and L.-P. Morency, [Context-based Signal Descriptors of Heart-rate Variability for Anxiety Assessment](#), In *Proceedings of the 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2014
44. S. Park, M. Chatterjee, H. S. Shim, K. Sagea and L.-P. Morency, [Computational Analysis of Persuasiveness in Social Multimedia: A Novel Dataset and Multimodal Prediction Approach](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2014
45. S. Ghosh, M. Chatterjee, L.-P. Morency, [A Multimodal Context-based Approach for Distress Assessment](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2014
46. S. Scherer, Z. Hammal, Y. Yang, L.-P. Morency and J. Cohn, [Dyadic Behavior Analysis in Depression Severity Assessment Interviews](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2014
47. A. B. Zadeh, K. Sagea and L.-P. Morency, [Towards Learning Nonverbal Identities from the Web: Automatically Identifying Visually-Accentuated Words](#). In *Proceedings of the 14th International Conference on Intelligent Virtual Agents (IVA)*, 2014
48. M. Khademi and L.-P. Morency, [Relative Facial Action Unit Detection](#). In *Proceedings of the IEEE Winter conference on Applications of Computer Vision (WACV)*, 2014
49. J. Gratch, R. Artstein, G. Lucas, G. Stratou, S. Scherer, A. Nazarian, R. Wood, J. Boberg, D. DeVault, S. Marsella, D. Traum, S. Rizzo, L.-P. Morency, [The Distress Analysis Interview Corpus of human and computer interviews](#). In *Proceedings of the Ninth International Conference on Language Resources and Evaluation (LREC)*, 2014

**2013**

50. Y Song, L.-P. Morency and R. Davis. [Action Recognition by Hierarchical Sequence Summarization](#). In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2013
51. V. P. Rosas, R. Mihalcea and L.-P. Morency. [Utterance-Level Multimodal Sentiment Analysis](#). In *Proceedings of the Annual Meeting of the Association for Computational Linguistics (ACL)*, 2013
52. S. Scherer, G. Stratou, J. Boberg, J. Gratch, A. Rizzo and L.-P. Morency. [Automatic Behavior Descriptors for Psychological Disorder Analysis](#). In *Proceedings of the IEEE Conference on Automatic Face and Gesture Recognition (FG)*, 2013 **\*\*\* Best paper award \*\*\***
53. J.-C. Levesque, C. Gagne and L.-P. Morency. [Sequential Emotion Recognition using Latent-Dynamic Conditional Neural Fields](#). In *Proceedings of the IEEE Conference on Automatic Face and Gesture Recognition (FG)*, 2013
54. Y. Song, L.-P. Morency and R. Davis. [Distribution-Sensitive Learning for Imbalanced Datasets](#). In *Proceedings of the IEEE Conference on Automatic Face and Gesture Recognition (FG)*, 2013
55. K. Bousmalis, S. Zafeiriou, L.-P. Morency, M. Pantic and Z. Ghahramani. [Variational Hidden Conditional Random Fields with Coupled Dirichlet Process Mixtures](#). In *Proceedings of the European Conference on Machine Learning (ECML)*, 2013
56. S. Scherer, J. Pestian, and L.-P. Morency. [Investigating the Speech Characteristics of Suicidal Adolescents](#). In *Proceedings of International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2013
57. J. Kane, S. Scherer, M. Aylett, L.-P. Morency, and C. Gobl. [Speaker and Language Independent Voice Quality Classification Applied to Unlabelled Corpora of Expressive Speech](#). In *Proceedings of International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2013
58. F. Wening, C. Wagner, M. Wollmer, B. Schuller and L.-P. Morency. [Speaker Trait Characterization In Web Videos: Uniting Speech, Language, And Facial Features](#). In *Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2013
59. S. Scherer, G. Stratou, J. Gratch and L.-P. Morency. [Investigating Voice Quality as a Speaker-Independent Indicator of Depression and PTSD](#). In *Proceedings of the 14th Annual Conference of the International Speech Communication Association (Interspeech)*, 2013
60. J. Kane, S. Scherer, L.-P. Morency, and C. Gobl. [A comparative study of glottal open quotient estimation techniques](#). In *Proceedings of the 14th Annual*

*Conference of the International Speech Communication Association (Interspeech)*, 2013

61. E. Nouri, S. Park, S. Scherer, J. Gratch, P. Carnevale, L.-P. Morency and D. Traum. [Prediction of Strategy and Outcome as Negotiation Unfolds by Using Basic Verbal and Behavioral Features](#). In *Proceedings of the 14th Annual Conference of the International Speech Communication Association (Interspeech)*, 2013
62. D. DeVault, K. Georgila, R. Artstein, F. Morbini, D. Traum, S. Scherer, A. Rizzo, L.-P. Morency. [Verbal Indicators of Psychological Distress in Interactive Dialogue with a Virtual Human](#). In *Proceedings of the 14th Annual Meeting of the Special Interest Group on Discourse and Dialogue (SigDial)*, 2013
63. G. Mohammadi, S. Scherer, A. Vinciarelli and L.-P. Morency. [Who is Persuasive? The Role of Perceived Personality and Communication Modality in Social Multimedia](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2013
64. S. Scherer, G. Stratou, J. Gratch and L.-P. Morency. [Audiovisual Behavior Descriptors for Depression Assessment](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2013
65. M. Mahmoud, P. Robinson and L.-P. Morency. [Automatic Multimodal Descriptors of Rhythmic Body Movement](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2013
66. Y. Song, L.-P. Morency and R. Davis. [Learning a Sparse Codebook of Facial and Body Expressions for Audio-Visual Emotion Recognition](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2013
67. I. de Kok, L.-P. Morency and D. Heylen. [Speaker-Adaptive Multimodal Prediction Model for Listener Responses](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2013
68. C. Miller, L.-P. Morency and F. Quek. [Interactive Relevance Search and Modeling: Support for Expert-Driven Analysis of Multimodal Data](#). In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)*, 2013
69. D. Ozkan and L.-P. Morency. [Prediction of Visual Backchannels in the Absence of Visual Context Using Mutual Influence](#). In *Proceedings of the Conference on Intelligent Virtual Agents (IVA)*, 2013
70. L. Batrinca, G. Stratou, A. Shapiro, L.-P. Morency, and S. Scherer. [Cicero - Towards a Multimodal Virtual: Audience Platform for Public Speaking Training](#). In *Proceedings of the Conference on Intelligent Virtual Agents (IVA)*, 2013

71. A. Hartholt, D. Traum, S. Marsella, A. Shapiro, G. Stratou, A. Leuski, L.-P. Morency and J. Gratch. [All Together Now: Introducing the Virtual Human Toolkit](#). In *Proceedings of the Conference on Intelligent Virtual Agents (IVA)* 2013
72. G. Stratou, S. Scherer, J. Gratch and L.-P. Morency. [Automatic Nonverbal Behavior Indicators of Depression and PTSD: Exploring Gender Differences](#). In *Proceedings of International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2013
73. S. Park, S. Scherer, J. Gratch, P. Carnevale, and L.-P. Morency. [Mutual Behaviors during Dyadic Negotiation: Automatic Prediction of Respondent Reactions](#). In *Proceedings of International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2013
74. J. Gratch, L.-P. Morency, S. Scherer, G. Stratou, J. Boberg, S. Koenig, T. Adamson and A. Rizzo. [User-State Sensing for Virtual Health Agents and TeleHealth Applications](#). In *Proceedings of Medicine Meets Virtual Reality (MMVR)*, 2013

## 2012

75. T. Baltrusaitis, P. Robinson and L.-P. Morency. [3D Constrained Local Model for Rigid and Non-Rigid Facial Tracking](#). In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2012
76. Y. Song, L.-P. Morency and R. Davis. [Multi-View Latent Variable Discriminative Models For Action Recognition](#). In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2012
77. S. Kang, J. Gratch, C. Sidner, R. Artstein, L. Huang and L.-P. Morency. [Towards building a Virtual Counselor: Modeling Nonverbal Behavior during Intimate Self-Disclosure](#). In *Proceedings of the Eleventh International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2012
78. A. Sadeghipour, L.-P. Morency and S. Kopp. [Gesture-based Object Recognition using Histograms of Guiding Strokes](#). In *Proceedings of the British Machine Vision Conference (BMVC)*, 2012
79. C. Sun and L.-P. Morency. [Dialogue Act Recognition Using Reweighted Speaker Adaptation](#). In *Proceedings of the 13th Annual SIGdial Meeting on Discourse and Dialogue (SigDial)*, 2012
80. S. Scherer, S. Marsella, G. Stratou, Y. Xu, F. Morbini, A. Egan, A. Rizzo, and L.-P. Morency. [Perception Markup Language: Towards a Standardized Representation of Perceived Nonverbal Behaviors](#). In *Proceedings of the Conference on Intelligent Virtual Agents (IVA)*, 2012
81. S. Park, J. Gratch, and L.-P. Morency. [I Already Know Your Answer: Using Nonverbal Behaviors to Predict Immediate Outcomes in a Dyadic Negotiation](#). In

*Proceedings of the 14th ACM International Conference on Multimodal Interaction (ICMI), 2012*

82. Y. Song, L.-P. Morency and R. Davis. [Multimodal Human Behavior Analysis: Learning Correlation and Interaction Across Modalities](#). In *Proceedings of the ACM International Conference on Multimodal Interactions (ICMI), 2012*
83. C. Miller, L.-P. Morency and F. Quek. [Structural and Temporal Inference Search \(STIS\): Pattern Identification in Multimodal Data](#). In *Proceedings of the ACM International Conference on Multimodal Interactions (ICMI), 2012*
84. M. Burzo, D. McDuff, R. Mihalcea, L.-P. Morency, A. Narvaez and V. Perez-Rosas. [Towards Sensing the Influence of Visual Narratives on Human Affect](#). In *Proceedings of the ACM International Conference on Multimodal Interactions (ICMI), 2012*

## **2011**

85. D. Ozkan and L.-P. Morency. [Modeling Wisdom of Crowds Using Latent Mixture of Experts](#). In *49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL HLT), 2011*
86. L. Huang, L.-P. Morency and Jonathan Gratch. [A Multimodal End-of-Turn Prediction Model: Learning from Parasocial Consensus Sampling](#). In *Proceedings of the Tenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2011*
87. G. Stratou, A. Ghosh, P. Debevec and L.-P. Morency. [Effect of Illumination on Automatic Expression Recognition: A Novel 3D Relightable Facial Database](#). In *Proceedings of the IEEE International Conference on Automatic Face and Gesture Recognition (FG), 2011*
88. K. Bousmalis, L.-P. Morency and M. Pantic. [Modeling Hidden Dynamics of Multimodal Cues for Spontaneous Agreement and Disagreement Recognition](#). In *Proceedings of the IEEE International Conference on Automatic Face and Gesture Recognition (FG), 2011*
89. S. Kang, C. Sidner, J. Gratch, R. Artstein, L. Huang and L.-P. Morency. [Modeling Nonverbal Behavior of a Virtual Counselor during Intimate Self-Disclosure](#). In *Proceedings of the Conference on Intelligent Virtual Agents (IVA), 2011*
90. L. Huang, L.-P. Morency and J. Gratch, [Virtual Rapport 2.0](#). In *Proceedings of the Conference on Intelligent Virtual Agents (IVA), Iceland, 2011*
91. M. Hoque, L.-P. Morency and R. Picard. [Are you friendly or just polite? – Analysis of smiles in spontaneous face-to-face interactions](#). In *Proceedings of the conference on Affective Computing and Intelligent Interaction (ACII), Memphis, USA, 2011*

92. L.-P. Morency, R. Mihalcea and P. Doshi. [Towards Multimodal Sentiment Analysis: Harvesting Opinions from The Web](#). In *Proceedings of the International Conference on Multimodal Interfaces (ICMI)*, 2011
93. J. Chen, A. Demski, T. Han, L.-P. Morency, D. Pynadath, N. Rafidi and P. Rosenbloom. [Fusing Symbolic and Decision-Theoretic Problem Solving + Perception in a Graphical Cognitive Architecture](#). In *Proceedings of the conference on Biologically Inspired Cognitive Architectures (BICA)*, 2011

## 2010

94. L. Huang, L.-P. Morency and J. Gratch. [Parasocial Consensus Sampling: Combining Multiple Perspectives to Learn Virtual Human Behavior](#). In *Proceedings of the 9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2010 \*\*\* **Best paper award, Virtual Human track** \*\*\*
95. D. Ozkan, K. Sagae and L.-P. Morency. [Latent Mixture of Discriminative Experts for Multimodal Prediction Modeling](#). In *Proceedings of the International Conference on Computational Linguistics (COLING)*, 2010
96. I. de Kok , D. Ozkan, D. Heylen, L.-P. Morency. [Learning and Evaluating Response Prediction Models using Parallel Listener Consensus](#). In *Proceedings of the International Conference on Multimodal Interfaces (ICMI)*, 2010
97. S. Kang, C. Sidner, J. Gratch and L.-P. Morency. [Turn-taking patterns in self-disclosure interactions with Virtual Agents](#). *Proceedings of the Conference on Intelligent Virtual Agents (IVA)*, Philadelphia, USA, 2010
98. L. Huang, L.-P. Morency and Jonathan Gratch. [Learning Backchannel Prediction Model from Parasocial Consensus Sampling: A Subjective Evaluation](#). *Proceedings of the Conference on Intelligent Virtual Agents (IVA)*, Philadelphia, USA, 2010

## 2008

99. L.-P. Morency, J. Whitehill and Javier Movellan. [Generalized Adaptive View-based Appearance Model: Integrated Framework for Monocular Head Pose Estimation](#). *8<sup>th</sup> International Conference on Automatic Face and Gesture Recognition (FG)*, September 2008 \*\***Best paper award**\*\*
100. L.-P. Morency, I. de Kok and J. Gratch. [Context-based Recognition during Human Interactions: Automatic Feature Selection and Encoding Dictionary](#). *10<sup>th</sup> International Conference on Multimodal Interfaces (ICMI)*, October 2008 \*\***Best paper award**\*\*

101. L.-P. Morency, I. de Kok and J. Gratch. [Predicting Listener Backchannels: A Probabilistic Multimodal Approach](#). *Conference on Intelligent Virtual Agents (IVA)*, September 2008 **\*\*Best paper award\*\***
102. X. Sun, L.-P. Morency, D. Okanohara, Y Tsuruoka and Jun'ichi Tsujii. [Modeling Latent-Dynamic in Shallow Parsing: A Latent Conditional Model with Improved Inference](#). *The 22<sup>nd</sup> International Conference on Computational Linguistics (COLING)*, August 2008
103. L.-P. Morency. [Real-Time Head Pose Estimation Using A Webcam: Monocular Adaptive View-Based Appearance Model](#). *Proceedings of the 27<sup>th</sup> Army Science Conference*, December 2008

## 2007

104. L.-P. Morency, A. Quattoni and T. Darrell. [Latent-Dynamic Discriminative Models for Continuous Gesture Recognition](#). *Proceedings IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, June 2007
105. J. Gratch, N. Wang, A. Okhmatovskaia, F. Lamothe, M. Morales and L.-P. Morency. [Can virtual humans be more engaging than real ones? 12<sup>th</sup> International Conference on Human-Computer Interaction \(HCI\)](#), Beijing, China 2007

## 2006

106. S. Wang, A. Quattoni, L.-P. Morency, D. Demirdjian, and T. Darrell. [Hidden Conditional Random Fields for Gesture Recognition](#). *Conference on Computer Vision and Pattern Recognition (CVPR)*, New York City, NY, June 2006
107. L.-P. Morency, C. Sidner, C. Lee, and T. Darrell. [The Role of Context in Head Gesture Recognition](#). *The Twenty-First National Conference on Artificial Intelligence, Nectar track (AAAI)*, Boston, MA, July 2006
108. C. M. Christoudias, K. Saenko, L.-P. Morency, and T. Darrell. [Co-Adaptation of Audio-Visual Speech and Gesture Classifiers](#). *International Conference on Multimodal Interactions (ICMI)*, Banff, Canada, November 2006 **\*\*Best paper award\*\***
109. L.-P. Morency, C. M. Christoudias, and T. Darrell. [Recognizing Gaze Aversion Gestures in Embodied Conversational Discourse](#). *International Conference on Multimodal Interactions (ICMI)*, Banff, Canada, November 2006
110. J. Gratch, A. Okhmatovskaia, F. Lamothe, S. Marsella, M. Morales, R. J. van der Werf, and L.-P. Morency. [Virtual Rapport](#). *6<sup>th</sup> International Conference on Intelligent Virtual Agents (IVA)*, Marina del Rey, CA, August 2006

111. C. Sidner, C. Lee, L.-P. Morency, and C. Forlines. [The Effect of Head-Nod Recognition in Human-Robot Conversation](#). *Annual Conference on Human-Robot Interaction (HRI)*, Salt Lake City, Utah, USA, March 2006

112. L.-P. Morency, and T. Darrell. [Head Gesture Recognition in Intelligent Interfaces: The Role of Context in Improving Recognition](#). *International Conference on Intelligent User Interfaces (IUI)*, Sydney, Australia, 2006

## 2005

113. L.-P. Morency, C. Sidner, C. Lee, and T. Darrell. [Contextual Recognition of Head Gestures](#). *International Conference on Multimodal Interactions (ICMI)*, pp.18-24, Italy, October 2005 **\*\*Best paper award\*\***

## 2004

114. C. M. Christoudias, L.-P. Morency, and T. Darrell. [Light Field Appearance Manifolds](#). *European Conference on Computer Vision (ECCV)*, vol. 4, pp.481-493, Prague, Czech Republic, May 2004

115. C. Lee, N. Lesh, C. Sidner, L.-P. Morency, A. Kapoor, and T. Darrell. [Nodding in Conversations with a Robot](#). *CHI extended abstracts (CHI)*, pp. 785-786, Vienna, Austria, 2004

116. L.-P. Morency, and T. Darrell. [From Conversational Tooltips to Grounded Discourse: Head Pose Tracking in Interactive Dialog Systems](#). *International Conference on Multimodal Interfaces (ICMI)*, pp. 32-37, 2004

## 2003

117. L.-P. Morency, A. Rahimi, and T. Darrell. [Adaptive View-based Appearance Model](#). *Computer Vision and Pattern Recognition (CVPR)*, vol. 1, pp. 803-810, Wisconsin, June 2003

118. M. Siracusa, L.-P. Morency, K. Wilson, J. Fisher, and T. Darrell. [A Multi-Modal Approach for determining Speaker Location and Focus](#). *International Conference on Multimodal Interactions (ICMI)*, pp. 77-80, 2003

119. L.-P. Morency and R. Gupta. [Robust Real-time Egomotion from Stereo Images](#). *International Conference on Image Processing (ICIP)*, vol. 3, pp. 719-722, Barcelona, Spain, September 2003

## 2002

120. L.-P. Morency and T. Darrell. [Stereo Tracking using ICP and Normal Flow Constraint](#). *International Conference on Pattern Recognition (ICPR)*, vol. 3, pp. 367-372, Quebec city, Canada, August 2002



121. T. Darrell, K. Tollmar, F. Bentley, N. Checka, L.-P. Morency, A. Rahimi, and A. Oh. [Face-responsive Interfaces: from Direct Manipulation to Perceptive Presence](#). *International Conference of Ubiquitous Computing (UbiComp)* pp. 135-151, 2002
122. L.-P. Morency, A. Rahimi, N. Checka, and T. Darrell. [Fast Stereo-based Head Tracking for Interactive Environment](#). *International Conference on Automatic Face and Gesture Recognition (FG)*, pp. 375-380, 2002
123. A. Oh, H. Fox, M. Van Kleek, A. Adler, K. Gajos, L.-P. Morency, and T. Darrell. [Evaluating Look-to-Talk: A Gaze-Aware Interface in a Collaborative Environment](#). *CHI extended abstracts (CHI)*, pp. 650-651, 2002

## 2001

124. A. Rahimi, L.-P. Morency, and T. Darrell. [Reducing Drift in Parametric Motion Tracking](#). *International Conference on Computer Vision (ICCV)*, vol. 1, pp. 315-322, Vancouver, Canada, July 2001

## Book chapters

125. A. Rizzo, R. Shilling, E. Forbell, S. Scherer, J. Gratch, and L.-P. Morency, [Autonomous Virtual Human Agents for Healthcare Information Support and Clinical Interviewing](#), Luxton, D.D. (Ed). *Artificial Intelligence in Mental Healthcare Practice*. Academic Press, 2015, pp. 53 - 80.
126. L.-P. Morency, Ari Shapiro and Stacy Marsella. Modeling Human Communication Dynamics for Virtual Human. [Verbal synchrony in Human-Machine Interaction](#), Matej Rojc and Nick Campbell, Editors, Science Publishers/CRC Press, 2014
127. L.-P. Morency. The Role of Context in Affective Behavior Understanding. [Social Emotions in Nature and Artifact: Emotions in Human and Human-Computer Interaction](#), Jonathan Gratch and Stacy Marsella, Editors, Oxford University Press, 2014
128. L.-P. Morency, C. Sidner, and T. Darrell. Visual Feedback Recognition for Embodied Agent: The role of contextual information. [Engineering Approaches to Conversational Informatics](#), Toyooki Nishida, Editor. John Wiley & Sons, 2007

## Refereed workshop papers

129. E. Wood, T. Baltrušaitis, L.-P. Morency, P. Robinson, A. Bulling, [Learning an Appearance-based Gaze Estimator from one million Synthesised Images](#), In Proceedings of the Symposium on Eye Tracking Research & Applications (ETRA), 2016
130. S. Ghosh, E. Laksana, L.-P. Morency and S. Scherer, [Learning Representations of Affect from Speech](#), In Proceedings of the International Conference on Learning Representations Workshop (ICLR-W), 2016

131. S. Vijay, T. Baltrusaitis, L.-P. Morency, L. Pennant, D. Öngür and J. Baker, [Automatic prediction of psychosis symptoms from facial expressions](#), CHI Computing and Mental Health Workshop, 2016
132. G. Stratou, L.-P. Morency, D. Devault, A. Hartholt, E. Fast, M. Lhommet, G. Lucas, F. Morbini, K. Georgila, S. Scherer, J. Gratch, S. Marsella, D. Traum and A. Rizzo, [A Demonstration of the Perception System in SimSensei, a Virtual Human Application for Healthcare Interviews](#), Demo Paper at the sixth International Conference on Affective Computing and Intelligent Interaction (ACII), 2015  
**\*\*Best demo paper award\*\***
133. V. Cirik, L.-P. Morency and E. Hovy, [Chess Q&A : Question Answering on Chess Games](#), NIPS Workshop on Reasoning, Attention, Memory (RAM), 2015
134. L. Gui and L.-P. Morency, [Learning and Transferring Deep ConvNet Representations with Group-Sparse Factorization](#), ICCV Workshop on Machine Learning for Intelligent Image and Video Processing, 2015
135. M. Chatterjee, H. S. Shim, S. Park, K. Sagea and L.-P. Morency, [Verbal Behaviors and Persuasiveness in Online Multimedia Content](#). In *Proceedings of the AFNLP Special Interest Group on Natural Language Processing for Social Media (SocialNLP)*, 2014
136. Tadas Baltrusaitis, Peter Robinson and Louis-Philippe Morency. [Constrained Local Neural Fields for Robust Facial Landmark Detection in the Wild](#). ICCV Workshop on 300 Faces in the Wild, 2013
137. Zhou Yu, Stefan Scherer, David Devault, Jonathan Gratch, Giota Stratou, Louis-Philippe Morency and Justine Cassell. [Multimodal Prediction of Psychological Disorders: Learning Verbal and Nonverbal Commonalities in Adjacency Pairs](#). Workshop on the Semantics and Pragmatics of Dialogue (SemDial), 2013
138. A. S. Gordon, J. R. Hobbs, K. Ovchinnikova, M. Roemmele, and L.-P. Morency. [Abduction of Mental States with a Formal Theory of Commonsense Psychology](#). In *Proceedings of the CogSci Workshop Mental Model Ascription by Language-Enabled Intelligent Agents*, 2013
139. D. Ozkan, S. Scherer and L.-P. Morency. [Step-wise Emotion Recognition using Concatenated-HMM](#). In *Proceedings of the 2nd International Audio/Visual Emotion Challenge and Workshop (AVEC)*, in conjunction with International Conference on Multimodal Interfaces (ICMI), Santa Monica, October, 2012
140. S. Park, G. Mohammadi, R. Artstein, and L.-P. Morency. [Crowdsourcing Micro-Level Multimedia Annotations: The Challenges of Evaluation and Interface](#). In *the Proceedings of the International ACM Workshop on Crowdsourcing for Multimedia held in conjunction with ACM Multimedia 2012 (CrowdMM)*, Nara, November, 2012

141. S. Finkelstein, S. Scherer, A. Ogan, L.-P. Morency and J. Cassell. [Investigating the Influence of Virtual Peers as Dialect Models on Students' Prosodic Inventory](#). In *Proceedings of the Interspeech Workshop on Child, Computer and Interaction (WOCCI)*, 2012
142. S. Scherer, N. Weibel, S. Oviatt, and L.-P. Morency. [Multimodal Prediction of Expertise and Leadership in Learning Groups](#). In *Proceedings of the 1st International Workshop on Multimodal Learning Analytics (MLA)*, in conjunction with International Conference on Multimodal Interfaces (ICMI), 2012
143. S. Scherer, D. Ozkan and L.-P. Morency. [Investigating the influence of pause fillers for automatic backchannel prediction](#). In *Proceedings of the Interspeech Workshop on Feedback Behaviors in Dialog*, 2012
144. L.-P. Morency. [Computational Study of Human Communication Dynamics](#). In *Proceedings of the 2011 joint ACM workshop on Human gesture and behavior understanding (J-HGBU)*, Arizona, USA, 2011 **[Invited paper]**
145. G. Ramirez, T. Baltrusaitis, and L.-P. Morency. [Modeling Latent Discriminative Dynamic of Multi-Dimensional Affective Signals](#). *Audio/Visual Emotion Challenge and Workshop (AVEC)*, 2011 **\*\*Winner of the vision-only sub-challenge\*\***
146. C. Sun, L.-P. Morency. [Towards Speaker Adaptation for Dialogue Act Recognition](#). *SEMDIAL workshop on the semantics and pragmatics of dialogue*, Los Angeles, USA, September 2011
147. D. Ozkan and L.-P. Morency. [Consensus of Self-Based Feature Selection for Nonverbal Behavior Analysis](#). In *Proceedings of the First Workshop on Human Behavior Understanding (HBU)*, in conjunction with International Conference on Pattern Recognition (ICPR), Istanbul-Turkey, August 22-26, 2010
148. D. Traum and L.-P. Morency. [Integration of Visual Perception in Dialogue Understanding for Virtual Humans in Multi-Party interaction](#). In *Proceedings of the International Workshop on Interacting with ECAs as Virtual Characters*, 2010
149. L.-P. Morency. [Co-occurrence Graphs: Contextual Representation for Head Gesture Recognition during Multi-Party Interactions](#). In *Proceedings of the ICMI-MLMI Workshop on Use of Context for Visual Processing*, Boston, MA, 2009
150. L.-P. Morency and T. Darrell. [Conditional Sequence Model for Context-based Recognition of Gaze Aversion](#). In *Proceedings of the 4<sup>th</sup> Joint Workshop on Machine Learning and Multimodal Interaction*, June 2007
151. L.-P. Morency, C. Sidner, and T. Darrell. [Towards Context-Based Visual Feedback Recognition for Embodied Agents](#). In *Proceedings of the Symposium on Conversational Informatics for Supporting Social Intelligence and Interaction (AISB)*, pp.69-72, Hatfield, UK, April 2005
152. L.-P. Morency, P. Sundberg, and T. Darrell. [Pose Estimation using 3D View-Based Eigenspaces](#). In *Proceedings of the ICCV workshop on Analysis and Modeling of Face and Gesture*, pp. 45-52, Nice, France, October 2003

## UNIVERSITY SERVICES

### Teaching Experience

- CMU-11777: **Advanced Multimodal Machine Learning**, Spring 2016  
*Lecturer and creator of this new course that teaches fundamental mathematical concepts related to multimodal machine learning including multimodal alignment and fusion, heterogeneous representation learning and multi-stream temporal modeling.*
- CMU-11776: **Human Communication and Multimodal Machine Learning**, Fall 2015  
*Revised version of this course which focuses on recent advances in machine learning, pattern recognition and signal processing to analyze, recognize and predict human communication behaviors during social interactions.*
- USC-CS599: **Human Communication and Machine Learning**, Fall 2010, 2012, 2014  
*Lecturer and creator of this new course focusing on recent advances in machine learning, pattern recognition and signal processing to analyze, recognize and predict human communication behaviors during social interactions.*
- USC-CS 534: **Affective Computing**, Spring 2009, Fall 2011  
*Guest lectures on Emotion recognition using computer vision.*
- USC-CS574: **Computer Vision**, Fall 2011  
*Guest lecture on computer vision and human-computer interaction.*
- MIT 6.891: **Computer vision and applications**, Spring 2004  
*Teaching assistant in charge of short tutorials and problem sets.*

### Current Student Advising

<b>Chaitanya Ahuja</b> , Ph.D. Language Technologies Institute	August 2015-present Carnegie Mellon University
<b>Hongliang Yu</b> , Master of Language Technologies Language Technologies Institute	August 2015-present Carnegie Mellon University
<b>Volkan Cirik</b> , Master of Language Technologies Language Technologies Institute	August 2015-present Carnegie Mellon University
<b>Amir Ali Bagherzade</b> , Ph.D. Language Technologies Institute	August 2013-present Carnegie Mellon University
<b>Sayan Ghosh</b> , Ph.D. (with Prof. Stefan Scherer) Department of Computer Science	August 2013-present University of Southern California
<b>Kanggeon Kim</b> , Ph.D. (with Prof. Gerard Medioni) Department of Computer Science	August 2013-present University of Southern California

### Graduated Students

<b>Sunghyun Park</b> , Ph.D. Department of Computer Science	Graduated January 2016 University of Southern California
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<b>Derya Ozkan, Ph.D.</b> Department of Computer Science	Graduated December 2013 University of Southern California
<b>Congkai Sun, M.S.</b> Department of Computer Science	August 2009-May 2011 University of Southern California
<b>Patrick Sundberg, M.S. (with Prof. Trevor Darrell)</b> Department of Electrical Engineering and Computer Science	2002-2003 MIT

### Dissertation Committees

- Kenneth Alberto Funes Mora. “3D gaze sensing from remote RGB-D sensors with application to non-cooperative and cooperative users and scenarios”, École Polytechnique Fédérale de Lausanne, Switzerland, 2015
- Ivan Gris Sepulveda. “Two-Way Virtual Rapport In Embodied Conversational Agents”, The University of Texas at El Paso, 2015
- Iwan de Kok. “Listening Heads” University of Twente, Netherlands, 2013
- Ehsan Hoque. “Computers to Help with Conversations: Affective Framework to Enhance Human Nonverbal Skills”, Massachusetts Institute of Technology, 2013
- Chreston Miller. “Structural Model Discovery in Temporal Event Data Streams”, Virginia Institute of Technology, 2013
- Lixing Huang. “Parasocial Consensus Sampling: Modeling Human Nonverbal Behaviors from Multiple Perspectives”, University of Southern California, 2013
- Jina Lee. “Modeling Nonverbal Behaviors for Virtual Agents”, University of Southern California, 2011
- Thang Dinh. “Persistent object tracking in unconstrained environments”, University of Southern California, 2011

### Postdoc Advising

Tadas Baltrusaitis Language Technologies Institute	June 2015-Present Carnegie Mellon University
Marcelo Worsley Institute for Creative Technologies	August 2014-December 2014 University of Southern California
Stefan Scherer Institute for Creative Technologies	January 2012-December 2013 University of Southern California

### Visiting Students / Trained Researchers

- Behnaz Nojavan, University of Central Florida, 2015
- Shyam Rajagopalan, Canberra University, Australia, 2015
- Yushi Yao, Peking University, 2015
- Maryam Ziaeefard, Universite Laval, 2014

- Rowan Zellers, Harvey Mudd College, 2014, 2015
- Zhou Yu, Carnegie Mellon University, 2013
- Phillipa Shoemark, Edinburgh University, 2013
- Mathieu Chollet, Telecom Paristech, 2013
- Ligia Maria Batrinca, University of Trento, 2013
- Han Suk Sim, University of Southern California, 2013
- M. Ehsan Hoque, Massachusetts Institute of Technology, 2012
- Marwa Mahmoud, Cambridge University, 2012
- Gelareh Mohammadi, EPFL, 2012
- Moitreya Chatterjee, University of Southern California, 2012
- Mahmoud Khademi, McMaster University, 2012
- Tadas Baltrusaitis, Cambridge University, UK, 2011
- Julien-Charles Levesque, Laval University, 2011
- Geovany Ramirez, University of Texas, El Paso, 2011
- Payal Doshi, University of Southern California, 2011
- Konstantinos Bousmalis, Imperial College, 2010
- Iwan de Kok, University of Twente, 2008

### **Committees**

2016 CMU LTI Admission Committee (MLT/PhD)

2015-2016 CMU LTI Faculty Hiring Committee

2015 CMU LTI Admission Committee (MT/PhD)

2012-2013 USC CS Research Faculty Executive Committee

2012-2013 USC CS Faculty candidate visit co-organizer

2010-2011 USC CS Research Assistant Professor Appointment Committee

2009-2010 USC CS Research Assistant Professor Appointment Committee

### **INVITED TALKS**

- TEDxCMU, Pittsburgh, PA, March 2016
- University of Washington, Robotic Seminar, Seattle, WA, November 2015
- Carnegie Mellon University, Human-Computer Interaction Institute Seminar, Pittsburgh, PA, November 2015
- Carnegie Mellon University, Psychology Department, Pittsburgh, PA, October 2015
- Carnegie Mellon University, Robotic Institute Seminar, Pittsburgh, PA, October 2015

- World Economic Forum, Summer Meeting, Betazone, Dalian, China, September 2015
- University of Montreal, Colloquium DIRO, Montreal, Canada, May 2015
- McGill University, Exploring Higher Education in 2050, Montreal, Canada, May 2015
- Keynote speaker at The Eleventh IEEE International Conference on Automatic Face and Gesture Recognition (FG 2015), Ljubljana, Slovenia, May 2015
- IDIAP, Martigny, Switzerland, May 2015
- McLean Hospital, Harvard Medical School, Boston, MA, February 2015
- Association for Psychological Science, 26th Annual Convention, Symposium on Affective Computing for the Assessment of Depression, San Francisco, CA, May 23, 2014
- CVPR workshop on Computational Models of Social Interactions and Behavior: Scientific Grounding, Sensing and Applications, Columbus, Ohio, June 28, 2014
- International Workshop on Spoken Dialog Systems, Napa Valley, CA, January 2014
- Carnegie Mellon University LTI Colloquium, Pittsburgh, PA February 2014
- ETS (Educational Testing Services), Princeton, NJ, March 2014
- Interdisciplinary College, Soest, Germany, March 2014
- NetExplo Forum, Paris, France, March 2014
- MIT Computer Science and Artificial Intelligence Laboratory, Boston, MA, November, 2013
- NSF Avatar & Robotics Signing Creatures Workshop, Gallaudet University, Washington, DC, November 2013
- CVL Seminar, University of Maryland, November 2013
- UW/MSR Summer Institute, Understanding Situated Language in Everyday Life, Seattle, WA, July 2013
- Microsoft Research, Redmond, WA, July 2013
- Social Signal Processing Summer School, Vietri sul Mare, Italy, June 2013
- USC Information Sciences Institute, Los Angeles, CA, February 2013
- ECCV Workshop on Internet Vision, Florence, Italy, October 2012
- Cincinnati Children Hospital Research Center, Cincinnati, OH, May 2012
- NIPS Workshop on Integrating Language and Vision, Granada, Spain, December 2011
- ACM Multimedia Workshop on Social Signal Processing, Phoenix, AZ, December 2011
- SSPnet Curriculum Workshop, London, UK, December, 2011

- Imperial College, London, United Kingdom, September 2011
- University of California, Santa Barbara, CA, April 2010
- University of Southern California, Signal Analysis and Interpretation Laboratory, January 2010
- University of California, Berkeley, International Computer Science Institute, November 2009
- Honda Research Institute, Mountain View, CA, November 2009
- Massachusetts Institute of Technology, Media Lab, Boston, MA, November 2009
- Microsoft Research, Redmond, WA, July 2009
- Carnegie Mellon University, Vision Seminar, Pittsburgh, PA, March 2009
- Laval University, Quebec City, Canada, July 2009
- University of Southern California, Information Sciences Institute, AI Seminar Series, Los Angeles, CA, May 2009
- University of Texas, El Paso, TX, April 2009
- Texas A&M University, Parasol Seminar Series, April 2009
- University of Southern California, Computer Science Department, CS Colloquium, February 2009
- Workshop on Facial and Bodily Expressions for Control and Adaptation of Games (ECAG'08), September 2008
- Panelist at the Special Session on Multi-sensor HCI for Smart Environments at the Conference on Automatic Face and Gesture Recognition, September 2008
- Tokyo University, Tsujii Lab, September 2008
- Massachusetts Institute of Technology, Vision Seminar, May 2008
- University of Chicago, McNeil Lab, December 2007
- Northwestern University, ArticLab, December 2007
- University of California, San Diego, Machine Perception Laboratory, November 2007
- Mitsubishi Electronic Research Laboratories, April 2006
- Boston University, Image and Video Computing Group, March 2006

## **SELECTED PRESS COVERAGE**

- Discovery Channel, Daily Planet, January 27, 2016.
- BBC News, World Service, December 30, 2015. [Can A Computer Recognise Depression?](#)
- Good Magazine, December 29, 2015. [Researchers Are Using Facial-Recognition Technology to Fight Depression](#)



- The Atlantic, October 19, 2015. [Machines That Can See Depression on a Person's Face](#)
- The Guardian, September 17, 2015. [Meet Ellie, the machine that can detect depression](#)
- The Economist, July 4, 2015. [Sounds Bad](#)
- *NPR planet money*, May 20, 2015. [How A Machine Learned To Spot Depression](#)
- *USC Viterbi Magazine*, Fall 2014. [A New Way to Practice What You Preach](#)
- *The New Yorker*, October 16, 2014. [The Virtues \(and Limitations\) of Virtual Therapists](#)
- *The Atlantic*, May 23, 2014. [Would You Want Therapy From a Computerized Psychologist?](#)
- *NPR*, May 20, 2013. [If Your Shrink Is A Bot, How Do You Respond?](#)
- *BBC News*, May 26<sup>th</sup>, 2013, [Almost human: Lab treats trauma with virtual therapy](#)
- *CNN*, July 8<sup>th</sup>, 2013, [Virtual Human "Ellie" Story](#)
- *CNET*, April 3<sup>rd</sup>, 2013, [Feeling kind of blue? This digital avatar can tell](#)
- *Discovery Canada*, April 3<sup>rd</sup>, [Digit@l](#)
- *Fast Company*, August 9<sup>th</sup>, 2012, [Meet The Research Scientist Who Is Turning YouTube Into A Data Goldmine](#)
- *New Scientist*, November 10<sup>th</sup>, 2010, [Army avatars join the battle for hearts and minds](#)
- *The Economist*, June 10<sup>th</sup>, 2010, [Nods and winks](#)
- *The Economist online*, February 2<sup>nd</sup>, 2010, [Nods and winks: How to teach computers to make appropriate gestures](#)
- *USC News*, March 3<sup>rd</sup> 2008, [Science Journal Lauds USC Researcher](#)

## PROFESSIONAL ACTIVITIES

### Steering Committee Chair

- Chair for the Steering Committee of the ACM International Conference on Multimodal Interaction (ICMI), 2016-present

### Conference Program Chair

- 18th ACM International Conference on Multimodal Interaction (ICMI) which will be hosted in Tokyo, Japan in 2016
- 16th ACM International Conference on Multimodal Interaction (ICMI), Istanbul, Turkey, 2014

- The Tenth International Conference on Creating, Connecting and Collaborating through Computing, January 2012
- 13th ACM International Conference on Multimodal Interaction (ICMI), Alicante, Spain, November 2011

#### **Editorial Board Member**

- Associate Editor of the IEEE Transactions on Affective Computing (2014-Current)
- Member of the Editorial Board for the Springer Journal on Multimodal User Interfaces (JMUI) – (2009-Current)
- Associate Editor for the International Journal of Computer Vision & Signal Processing (2011-Current)
- Guest editor for the ACM Transactions on Interactive Intelligent Systems, Special issue on Affective Interaction in Natural Environment (2011)
- Guest editor for the Elsevier's Pattern Recognition Letter Special Issue on Pattern Recognition in Human-Computer Interaction (2014)

#### **Senior Program Committee Member (area chair, meta-reviewer)**

- International Conference on Multimodal Interaction (ICMI 2015), Senior Program Committee, November, 2015
- 11<sup>th</sup> IEEE International Conference on Automatic Face and Gesture Recognition (FG 2015), Area Chairs, May 4-8, 2015
- International Conference on Intelligent User Interfaces (IUI 2013), Senior Program Committee, March 19-22, 2013
- Affective Computing and Intelligent Interaction (ACII 2013), Senior Program Committee, September 2-5, 2013
- 12th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2013), Senior Program Committee, May 6-10, 2013
- IEEE Conference on Automatic Face and Gesture Recognition (FG 2013), Senior Program Committee, April 22-26, 2013
- 11<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2012), Senior Program Committee, June 4-8, 2012
- International Conference on Intelligent User Interfaces (IUI 2012), Senior Program Committee, Portugal, February 14-17, 2012
- IEEE 9th International Conference on Automatic Face and Gesture Recognition (FG 2011), Area Chair, Santa Barbara, CA March 2011
- 2011 International Conference on Intelligent User Interfaces (IUI 2011), Senior Program Committee, Palo Alto, CA, February 13-16, 2011
- ACM Multimedia 2010, Technical Program Committee, Human Centered-Computing track, Firenze, Italy, October 25-29, 2010

- International Conference of Multimodal Interaction (ICMI) 2008

### **General Chair**

- NIPS workshop on Multimodal Machine Learning, Montreal, Canada, December 10, 2015
- 14th ACM International Conference on Multimodal Interaction (ICMI 2012), Santa Monica, CA, October 2012
- First Workshop on Multimodal Learning Analytics, co-located with ICMI 2012, Santa Monica, CA, October 2012
- Workshop on Multimodal Behavior Understanding, co-located with ICPR 2012, September 2012
- 4th International Workshop on Affective Interaction in Natural Environments (AFFINE), co-located with ICMI 2011, November 2011
- First workshop on Machine Learning and Affective Computing, co-located with ACII 2011, Memphis, October 2011
- NIPS workshop on Modeling Human Communication Dynamics, Whistler, Canada, December 10, 2010
- First Workshop on Predictive Models of Human Communication Dynamics, Los Angeles, California, August 4-6, 2010
- Second Workshop on Use of Context in Video Processing, in conjunction with IEEE Conference on Computer Vision and Pattern Recognition (CVPR), San Francisco, June 13, 2010
- IEEE International Workshop on Social Behavior Analysis (SBA) in conjunction with the 9th International Conference on Automatic Face and Gesture Recognition (FG), in Santa Barbara, CA, March 2011
- ACM Multimedia 3rd International Workshop on Affective Interaction in Natural Environments (AFFINE), October 2010
- First Workshop on Use of Context in Vision Processing, Boston, MA, November 5<sup>th</sup>, 2009

### **Conference Co-organizer**

- Publicity Chair, ACM International Conference on Multimodal Interaction (ICMI), 2015
- Doctoral Consortium Co-Chair, IEEE Conference on Automatic Face and Gesture Recognition (FG), 2013
- Workshop Co-Chair, 15th International Conference on Multimodal Interaction (ICMI) Sydney, Australia, December, 2013.
- Student chair for International Conference of Multimodal Interaction (ICMI-MLMI), 2010

- Publication chair for International Conference of Multimodal Interaction (ICMI-MLMI), 2009

### **Program Committee Member**

- Siggraph 2012
- IEEE Computer Vision and Pattern Recognition (CVPR) 2011
- The 2011 IEEE International Conference on Robotics and Automation (ICRA 2011)
- Human-Robot interaction (HRI) 2011
- 12th International Conference on Multimodal Interfaces and 7th Workshop on Machine Learning for Multimodal Interaction (ICMI-MLMI 2010), Beijing, China, November 8-12, 2010
- The Annual Meeting of the Association for Computational Linguistics (ACL), Multimodal Language Track, 2010
- The International Conference on Computational Linguistics (CoLing), Discourse/Dialogue/Multimodal Track, 2010
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2006-2010
- The International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2010
- The International Conference on Intelligent User Interfaces (IUI), 2010
- IEEE International Conference on Robotics and Automation (ICRA), 2010
- International Conference on Intelligent Virtual Agents (IVA), 2009-2010
- 12th International Conference on Multimodal Interfaces and 7th Workshop on Machine Learning for Multimodal Interaction (ICMI-MLMI 2010), 2008-2010
- International Conference on Computer Animation and Social Agents (CASA), 2009-2010
- AAMAS International Workshop on Interacting with ECAs as Virtual Characters, Toronto, Canada, May 10, 2010
- 2010 IEEE International Workshop on CVPR for Human Communicative Behavior Analysis, San Francisco, CA, June 18, 2010
- First International Workshop on Computer Vision for Human-Robot Interaction (CVforHRI 2010), San Francisco, June 14, 2010
- International Workshop on Socially Intelligent Surveillance and Monitoring (SISM 2010), San Francisco, June 14, 2010
- AAI 2009 Spring Symposium on Human Behavior Modeling

### **Reviewer**

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transaction on Multimedia (MM)

- IEEE Transactions on Robotics (TRO)
- IEEE Transaction on Affective Computing (TAFFC)
- International Journal Pattern Recognition and Artificial Intelligence (IPRAI)
- IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans
- IEEE Transactions on Affective Computing
- ACM Transactions on Multimedia Computing Communications and Applications
- National Science Foundation