

Curriculum Vitae

Andrei Barbu

(315) 333-0621

andrei@0xab.com
abarbu@mit.edu

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<http://0xab.com>

Education

PhD, Electrical and Computer Engineering 2008 – 2013
Purdue University, School of Electrical and Computer Engineering

Title: Reasoning across language and vision in machines and humans
Advisor: Jeffrey Mark Siskind

Bachelor of Computer Science 2004 – 2008
University of Waterloo, School of Computer Science

Employment History

Postdoctoral Associate Dec. 2013 – present
Advisor: Boris Katz MIT, USA

Research assistant Jan. 2008 – Nov. 2013
Advisor: Jeffrey Mark Siskind Purdue University, USA

participated in the DARPA *Mind's Eye* program which investigated event recognition

Software development engineer May 2010 – Aug. 2010
Amazon.com Seattle, USA

Kernel developer May 2008 – Aug. 2008
Google Summer of Code 2008 – the GNU Hurd Purdue University, USA

Undergraduate research assistant Jul. 2006 – Sept. 2006
Advisor: Jeffrey Mark Siskind Purdue University, USA

Software developer and knowledge systems architect Jul. 2005 – May 2006
Dalin Software SA Laussane, Switzerland

Server administrator 2003 – 2008
Adrex Consulting Toronto, Canada

Refereed Journal Publications

[J1] A. Barbu, N. Siddharth, C. Xiong, J. J. Corso, C. D. Fellbaum, C. Hanson, S. J. Hanson, S. Hélie, E. Malaia, B. A. Pearlmutter, J. M. Siskind, T. M. Talavage, and R. B. Wilbur, 'The Compositional Nature of Event Representations in the Human Brain', *Science*, In review.
<http://0xab.com/papers/science.pdf>

[J2] H. Yu, N. Siddharth, A. Barbu, and J. M. Siskind, 'A Compositional Framework for Grounding Language Inference, Generation, and Acquisition in Video', *Journal of Artificial Intelligence Research (JAIR)*, In review.
<http://0xab.com/papers/jair.pdf>

[J3] A. Barbu, N. Siddharth, and J. M. Siskind, 'Saying What You're Looking For: Linguistics Meets Video Search', *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, In review.
<http://0xab.com/papers/pami.pdf>

[J4] N. Siddharth, A. Barbu, and J. M. Siskind, 'Seeing unseeability to see the unseeable', *Advances in Cognitive Systems*, 2:77–94, December 2012.
<http://0xab.com/papers/acs2012a.pdf>

[J5] **A. Barbu**, N. Siddharth, A. Michaux, and J. M. Siskind, ‘Simultaneous object detection, tracking, and event recognition’, *Advances in Cognitive Systems*, 2:203–20, December 2012.
<http://0xab.com/papers/acs2012b.pdf>

Refereed Conference Publications

[C1] **A. Barbu**, N. Siddharth, and J. M. Siskind, ‘Video Retrieval with Sentential Queries’, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, In review.
<http://0xab.com/papers/cvpr2014b.pdf>

[C2] N. Siddharth, **A. Barbu**, and J. M. Siskind, ‘Seeing what you’re told: sentence-guided activity recognition in video’, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, In review.
<http://0xab.com/papers/cvpr2014a.pdf>

[C3] Y. Cao, D. Barrett, **A. Barbu**, N. Siddharth, H. Yu, A. Michaux, Y. Lin, S. Dickinson, J. M. Siskind, and S. Wang, ‘Recognizing human activities from partially observed videos’, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, June 2013, poster 472/1870 (25.2%).
<http://0xab.com/papers/cvpr2013.pdf>

[C4] N. Siddharth, **A. Barbu**, and J. M. Siskind, ‘Seeing unseeability to see the unseeable’, *First Annual Conference for Advances in Cognitive Systems (ACS)*, pp. 77–94, December 2012, oral 14/38 (37%), conference presentation associated with [J4].
<http://0xab.com/papers/acs2012a.pdf>

[C5] **A. Barbu**, N. Siddharth, A. Michaux, and J. M. Siskind, ‘Simultaneous object detection, tracking, and event recognition’, *First Annual Conference for Advances in Cognitive Systems (ACS)*, pp. 203–20, December 2012, oral 14/38 (37%), conference presentation associated with [J5].
<http://0xab.com/papers/acs2012b.pdf>

[C6] **A. Barbu**, A. Bridge, Z. Burchill, D. Coroian, S. Dickinson, S. Fidler, A. Michaux, S. Mussman, N. Siddharth, D. Salvi, L. Schmidt, J. Shangguan, J. M. Siskind, J. Waggoner, S. Wang, J. Wei, Y. Yin, and Z. Zhang, ‘Video in sentences out’, *Conference on Uncertainty In Artificial Intelligence (UAI)*, pp. 102–12, August 2012, oral 24/304 (8%).
<http://0xab.com/papers/uai2012.pdf>

[C7] N. Siddharth, **A. Barbu**, and J. M. Siskind, ‘A visual language model for estimating object pose and structure in a generative visual domain’, *IEEE International Conference on Robotics and Automation (ICRA)*, May 2011, oral 982/2004 (49%).
<http://0xab.com/papers/icra2011.pdf>

[C8] **A. Barbu**, N. Siddharth, and J. M. Siskind, ‘Learning physically-instantiated robotic game play through visual observation’, *IEEE International Conference on Robotics and Automation (ICRA)*, May 2010, oral 856/2062 (42%).
<http://0xab.com/papers/icra2010.pdf>

Patent Applications

[P1] **A. Barbu**, N. Siddharth, H. Yu, and J. M. Siskind, ‘Sentential video search’, *US provisional application 61/835,541*, June 2013.

Technical Reports

[T1] **A. Barbu**, A. Bridge, D. Coroian, S. Dickinson, S. Mussman, S. Narayanaswamy, D. Salvi, L. Schmidt, J. Shangguan, J. M. Siskind, J. Waggoner, S. Wang, J. Wei, Y. Yin, and Z. Zhang, ‘Large-scale automatic labeling of video events with verbs based on event-participant interaction’, *arXiv:1204.3616*, April 2012.
<http://arxiv.org/abs/1204.3616>

References

Sven Dickinson
sven@cs.toronto.edu
University of Toronto, Department of Computer Science
Pratt Building, 6 King’s College Rd. Room 283B
Toronto, Ontario, Canada M5S 3G4

Anthony Cohn
a.g.cohn@leeds.ac.uk
School of Computing, University of Leeds
Leeds, England LS2 9JT

Ronnie Wilbur
wilbur@purdue.edu
Purdue University, Speech, Language, and Hearing Sciences Department
Heavilon Hall, 500 Oval Drive, Room 41B
West Lafayette, IN 47907

Stephen José Hanson
jose@psychology.rutgers.edu
Rutgers University, RUBIC, Psychology Department
Smith Hall, 101 Warren Street, Room 324
Newark, NJ 07102

Jeffrey Mark Siskind
qobi@purdue.edu
School of Electrical and Computer Engineering, Purdue University
Electrical Engineering Building, 465 Northwestern Avenue, Room 313E
West Lafayette, IN 47907-2035