Svetlana Lazebnik

Professor
Department of Computer Science
University of Illinois at Urbana-Champaign
Siebel 3308, 201 N. Goodwin ave., Urbana, IL 61801
URL: http://slazebni.cs.illinois.edu/

Phone: 1(217)300-2422
Fax: 1(217)333-3502
E-mail: slazebni@illinois.edu

Research Interests

Object recognition; scene interpretation; joint understanding of images and text; big visual data; deep learning

Education

May 2006	**Ph.D.** in Computer Science University of Illinois at Urbana-Champaign Advisor: Dr. Jean Ponce Dissertation title: *Local, Semi-Local and Global Models for Texture, Object and Scene Recognition*
Dec 2002	**M.S.** in Computer Science University of Illinois at Urbana-Champaign
June 2000	**B.S.** in Computer Science with Mathematics Minor (Graduation with Highest Honors) DePaul University, Chicago, IL

Academic Employment

Aug. 2020 - present	**Professor**
Aug. 2014 - Aug. 2020	**Associate Professor**
Jan. 2012 - Aug. 2014	**Assistant Professor** Dept. of Computer Science, University of Illinois at Urbana-Champaign
July 2007 - Dec. 2011	**Assistant Professor** Dept. of Computer Science, University of North Carolina at Chapel Hill
May 2006 - July 2007	**Post-Doctoral Research Associate**
June 2001 - May 2006	**Research Assistant** Dept. of Computer Science, University of Illinois at Urbana-Champaign

Selected Awards and Honors

2021	University Scholar Award, U of Illinois
2021	IEEE Fellow
2020	Donald Biggar Willett Faculty Scholar Award, U of Illinois
2020, 2013	Dean's Award for Excellence in Research College of Engineering, U of Illinois
2017	Distinguished Alumni Educator Award, CS@Illinois
2016	Longuet-Higgins Prize at CVPR 2016 Awarded for CVPR 2006 paper with significant impact on computer vision research
2013	Sloan Research Fellowship
2013	C.W. Gear Outstanding Junior Faculty Award, CS@Illinois
2012, 2010, 2007	CVPR Outstanding Reviewer Award
2011	DARPA Computer Science Study Group Member
2009	Microsoft Research Faculty Fellowship
2008	NSF CAREER Award
2008	Teaching Award, UNC Computer Science Student Association
2003	David J. Kuck Best Master's Thesis Award, CS@Illinois

Publications

Journal Articles

- B. Plummer, K. Shih, Y. Li, K. Xu, S. Lazebnik, S. Sclaroff, and K. Saenko, "Revisiting Image-Language Networks for Open-ended Phrase Detection," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2020.
- Z.-S. Hung, A. Mallya, and S. Lazebnik, "Contextual Translation Embedding for Visual Relationship Detection and Scene Graph Generation," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2020.
- L. Wang, Y. Li, and S. Lazebnik, "Learning Two-Branch Neural Networks for Image-Text Matching Tasks," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 41, no. 2, February 2019, pp. 394-407 .
- T. Tommasi, A. Mallya, B. Plummer, S. Lazebnik, A. Berg, and T. Berg, "Combining Multiple Cues for Visual Madlibs Question Answering," *International Journal of Computer Vision*, vol. 127, January 2019, pp. 38-60.
- B. Plummer, L. Wang, C. Cervantes, J. Caicedo, J. Hockenmaier, and S. Lazebnik, "Flickr30k Entities: Collecting Region-to-Phrase Correspondences for Richer Image-to-Sentence Models," *International Journal of Computer Vision*, vol. 123, no. 1, May 2017, pp. 74-93.
- J. Tighe, M. Niethammer, and S. Lazebnik, "Scene Parsing with Object Instance Inference Using Regions and Per-exemplar Detectors," *International Journal of Computer Vision*, vol. 112, no. 2 (Special Issue on Scene Understanding), April 2015, pp. 150-171.
- Y. Gong, Q. Ke, M. Isard, and S. Lazebnik, "A Multi-View Embedding Space for Modeling Internet Images, Tags, and Their Semantics," arXiv:1212.4522, *International Journal of Computer Vision*, vol. 106, no. 2, January 2014, pp. 210-233.
- A. Gordo, F. Perronnin, Y. Gong, and S. Lazebnik, "Asymmetric Distances from Binary Embeddings," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 36, no. 1, January 2014, pp. 33-47.
- Y. Gong, S. Lazebnik, Y. Gordo, and F. Perronnin, "Iterative Quantization: A Procrustean Approach to Learning Binary Codes for Large-Scale Image Retrieval," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 35, no. 12, December 2013, pp. 2916-2929. ***Over 2300 citations on Google Scholar***.
- M. Raginsky, J. Silva, S. Lazebnik, and R. Willett, "A Recursive Procedure for Density Estimation on the Binary Hypercube," *Electronic Journal of Statistics*, vol. 7, 2013, pp. 820-858.
- J. Tighe and S. Lazebnik, "SuperParsing: Scalable Nonparametric Image Parsing with Superpixels," *International Journal of Computer Vision*, vol. 101, no. 2, January 2013, pp. 329-349.
- R. Raguram, C.Wu, J.-M. Frahm, and S. Lazebnik, "Modeling and Recognition of Landmark Image Collections Using Iconic Scene Graphs," *International Journal of Computer Vision*, vol. 95, no. 3, December 2011, pp. 213-239.
- J.-M. Frahm, M. Pollefeys, S. Lazebnik, C. Zach, D. Gallup, B. Clipp, R. Raguram, C. Wu, and T. Johnson, "Fast Robust Large-scale Mapping from Video and Internet Photo Collections," *ISPRS Journal of Photogrammetry and Remote Sensing,* vol. 65, no. 6 (Special Issue on 100 Years of ISPRS), 2010, pp. 538-549.
- S. Lazebnik and M. Raginsky, "Supervised Learning of Quantizer Codebooks by Information Loss Minimization," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 31, no. 7, July 2009, pp. 1294-1309.
- S. Lazebnik, Y. Furukawa, and J. Ponce, "Projective Visual Hulls," *International Journal of Computer Vision*, vol. 74, no. 2, August 2007, pp. 137-165.
- F. Rothganger, S. Lazebnik, C. Schmid, and J. Ponce, "Segmenting, Modeling, and Matching Video Clips Containing Multiple Moving Objects," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 29, no. 3, March 2007, pp. 477-491.

- J. Zhang, M. Marszalek, S. Lazebnik, and C. Schmid, "Local Features and Kernels for Classification of Texture and Object Categories: A Comprehensive Study," *International Journal of Computer Vision*, vol. 73, no. 2, June 2007, pp. 213-238. ***Over 2400 citations on Google Scholar***.

- F. Rothganger, S. Lazebnik, C. Schmid, and J. Ponce, "3D Object Modeling and Recognition Using Local Affine-Invariant Image Descriptors and Multi-View Spatial Constraints," *International Journal of Computer Vision*, vol. 66, no. 3, March 2006, pp. 231-259.

- S. Lazebnik, C. Schmid, and J. Ponce, "A Sparse Texture Representation Using Local Affine Regions," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 27, no. 8, August 2005, pp. 1265-1278. ***Over 1300 citations on Google Scholar***.

- S. Lazebnik and J. Ponce, "The Local Projective Shape of Smooth Surfaces and Their Outlines," *International Journal of Computer Vision*, vol. 63, no. 1, June 2005, pp. 65-83.

Edited Volumes

- I. S. Kweon, S. Lazebnik, N. Paragios, and M.-H. Yang (eds.), *Proceedings of the International Conference on Computer Vision*, IEEE/CVF, 2019.

- A. Fitzgibbon, S. Lazebnik, P. Perona, Y. Sato, and C. Schmid (eds.), *Proceedings of the 12th European Conference on Computer Vision*, Part I-VII. Lecture Notes in Computer Science vol. 7572-7578, Springer-Verlag, Berlin, Heidelberg, 2012.

Invited Papers and Book Chapters

- J. Tighe and S. Lazebnik, "Towards Open-Universe Image Parsing with Broad Coverage," *Proceedings of IAPR International Conference on Machine Vision Applications*, 2013.

- J.-M. Frahm, M. Pollefeys, S. Lazebnik, B. Clipp, D. Gallup, R. Raguram, and C. Wu, "Robust Reconstruction of Large-Scale Environments," *44th Annual Conference on Information Sciences and Systems*, invited session on 3D Data Acquisition and Analysis, 2010.

- S. Lazebnik, C. Schmid, and J. Ponce, "Spatial Pyramid Matching," *Object Categorization: Computer and Human Vision Perspectives*, S. Dickinson, A. Leondardis, B. Schiele, and M. Tarr (eds.), Cambridge University Press, 2009, pp. 401-415.

- J. Ponce, T. L. Berg, M. Everingham, D. A. Forsyth, M. Hebert, S. Lazebnik, M. Marszalek, C. Schmid, B. C. Russell, A. Torralba, C. K. I. Williams, J. Zhang, and A. Zisserman, "Dataset Issues in Object Recognition," *Toward Category-Level Object Recognition*, Springer-Verlag Lecture Notes in Computer Science vol. 4170. J. Ponce, M. Hebert, C. Schmid, and A. Zisserman (eds.), 2006, pp. 29-48.

- S. Lazebnik, C. Schmid, and J. Ponce, "A Discriminative Framework for Texture and Object Recognition Using Local Image Features," *Toward Category-Level Object Recognition*, Springer-Verlag Lecture Notes in Computer Science vol. 4170. J. Ponce, M. Hebert, C. Schmid, and A. Zisserman (eds.), 2006, pp. 423-442.

- F. Rothganger, S. Lazebnik, C. Schmid, and J. Ponce, "3D Object Modeling and Recognition from Photographs and Image Sequences," *Toward Category-Level Object Recognition*, Springer-Verlag Lecture Notes in Computer Science vol. 4170. J. Ponce, M. Hebert, C. Schmid, and A. Zisserman (eds.), 2006, pp. 105-126.

- C. Schmid, G. Dorko, S. Lazebnik, K. Mikolajczyk, and J. Ponce, "Pattern Recognition with Local Invariant Features," *Handbook of Pattern Recognition and Computer Vision*, 3rd edition, C.H. Chen and P.S.P Wang (eds.), World Scientific Publishing Co., 2005, pp. 71-92.

- J. Ponce, S. Lazebnik, F. Rothganger, and C. Schmid, "Toward True 3D Object Recognition," *Congrès de Reconnaissance des Formes et Intelligence Artificielle*, Toulouse, France, January 2004.

- J. Ponce, F. Rothganger, S. Lazebnik, K. McHenry, C. Schmid, S. Mahamud, and M. Hebert, "3D Photography from Photographs and Video Clips," *Proceedings of the International Symposium on Core Research for Evolutional Science, Technology (CREST) — Ikeuchi Project*, Tokyo, Japan, 2003, pp. 153-182.

Refereed Conference and Workshop Papers

- L. Weihs, U. Jain, I.-J. Liu, J. Salvador, S. Lazebnik, A. Kembhavi, and A. Schwing, "Bridging the Imitation Gap by Adaptive Insubordination," *Advances in Neural Information Processing Systems*, 2021.
- U. Jain, I.-J. Liu, S. Lazebnik, A. Kembhavi, L. Weihs, and A. Schwing, "GridToPix: Training Embodied Agents with Minimal Supervision," *Proceedings of the International Conference on Computer Vision*, 2021.
- S. Patel, S. Wani, U. Jain*, A. Schwing, S. Lazebnik, M. Savva, and A. X. Chang, "Interpretation of Emergent Communication in Heterogeneous Collaborative Embodied Agents," *Proceedings of the International Conference on Computer Vision*, 2021.
- A. Cui, D. McKee, and S. Lazebnik. "Dressing in Order: Recurrent Person Image Generation for Pose Transfer, Virtual Try-on and Outfit Editing," *Proceedings of the International Conference on Computer Vision*, 2021.
- A. Iscen, J. Zhang, S. Lazebnik, and C. Schmid. "Memory-Efficient Incremental Learning Through Feature Adaptation," *Proceedings of the European Conference on Computer Vision*, 2020.
- U. Jain, L. Weihs, E. Kolve, A. Farhadi, S. Lazebnik, A. Kembhavi, and A. Schwing, "A Cordial Sync: Going Beyond Marginal Policies for Multi-Agent Embodied Tasks," *Proceedings of the European Conference on Computer Vision*, 2020.
- U. Jain, L. Weihs, E. Kolve, M. Rastegari, S. Lazebnik, A. Farhadi, A. Schwing, and A. Kembhavi, "Two Body Problem: Collaborative Visual Task Completion," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2019. *Oral, acceptance rate: 5.6%.*
- M. Narasimhan, S. Lazebnik, and A. Schwing, "Out of the Box: Reasoning with Graph Convolution Nets for Factual Visual Question Answering," *Advances in Neural Information Processing Systems*, 2018. *Acceptance rate: 21%.*
- B. Plummer, P. Kordas, H. Kiapour, S. Zheng, R. Piramuthu, and S. Lazebnik, "Conditional Image-Text Embedding Networks," *Proceedings of the European Conference on Computer Vision*, 2018, pp. 258-274. *Acceptance rate: 32%.*
- A. Mallya, D. Davis, and S. Lazebnik, "Piggyback: Adapting a Single Network to Multiple Tasks by Learning to Mask Weights," *Proceedings of the European Conference on Computer Vision*, 2018, pp. 72-88. *Acceptance rate: 32%.*
- A. Mallya and S. Lazebnik, "PackNet: Adding Multiple Tasks to a Single Network by Iterative Pruning," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2018, pp. 7765 - 7773. *Acceptance rate: 29%.*
- U. Jain, S. Lazebnik, and A. Schwing, "Two can Play this Game: Visual Dialog with Discriminative Question Generation and Answering," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2018, pp. 5754 - 5763. *Acceptance rate: 29%.*
- L. Wang, A. Schwing, and S. Lazebnik, "Diverse and Accurate Image Description Using a Variational Auto-Encoder with an Additive Gaussian Encoding Space," *Advances in Neural Information Processing Systems*, 2017. *Acceptance rate: 21%.*
- A. Mallya and S. Lazebnik, "Recurrent Models for Situation Recognition," *Proceedings of the IEEE International Conference on Computer Vision*, 2017, pp. 455 - 463. *Acceptance rate: 29%.*
- B. Plummer, A. Mallya, C. Cervantes, J. Hockenmaier, and S. Lazebnik, "Phrase Localization and Visual Relationship Detection with Comprehensive Image-Language Cues," *Proceedings of the IEEE International Conference on Computer Vision*, 2017, pp. 1946 - 1955. *Acceptance rate: 29%.*
- B. Plummer, M. Brown, and S. Lazebnik, "Enhancing Video Summarization via Vision-Language Embedding," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2017, pp. 1052 - 1060. *Acceptance rate: 29%.*

- T. Tommasi, A. Mallya, B. Plummer, S. Lazebnik, A. Berg, and T. Berg, "Solving Visual Madlibs with Multiple Cues," *Proceedings of the British Machine Vision Conference*, 2016. *Acceptance rate: 39%.*
- A. Mallya and S. Lazebnik, "Learning Models for Actions and Person-Object Interactions with Transfer to Question Answering," *Proceedings of the European Conference on Computer Vision*, 2016, pp. 414 - 428. *Acceptance rate: 27%.*
- L. Wang, Y. Li, and S. Lazebnik, "Learning Deep Structure-Preserving Image-Text Embeddings," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2016, pp. 5005 - 5013. *Acceptance rate: 30%.*
- Y. Lu, T. Javidi, and S. Lazebnik, "Adaptive Object Detection Using Adjacency and Zoom Prediction," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2016, pp. 2351 - 2359. *Acceptance rate: 30%.*
- B. Plummer, L. Wang, C. Cervantes, J. Caicedo, J. Hockenmaier, and S. Lazebnik, "Flickr30k Entities: Collecting Region-to-Phrase Correspondences for Richer Image-to-Sentence Models," *Proceedings of the International Conference on Computer Vision*, 2015, pp. 2641 - 2649. *Acceptance rate: 31%.*
- A. Mallya and S. Lazebnik, "Learning Informative Edge Maps for Indoor Scene Layout Prediction," *Proceedings of the International Conference on Computer Vision*, 2015, pp. 936 - 944. *Acceptance rate: 31%.*
- J. Caicedo and S. Lazebnik, "Active Object Localization with Deep Reinforcement Learning," *Proceedings of the International Conference on Computer Vision*, 2015, pp. 2488 - 2496. *Acceptance rate: 31%.*
- H. Kiapour, X. Han, S. Lazebnik, A. Berg, and T. Berg, "Where to Buy It: Matching Street Clothing Photos in Online Shops," *Proceedings of the International Conference on Computer Vision*, 2015, pp. 3343 - 3351. *Oral, acceptance rate: 3.3%.*
- Y. Gong, L. Wang, M. Hodosh, J. Hockenmaier, and S. Lazebnik, "Improving Image-Sentence Embeddings Using Large Weakly Annotated Photo Collections," *Proceedings of the European Conference on Computer Vision*, 2014, pp. 529-545. *Acceptance rate: 29%.*
- Y. Gong, L. Wang, R. Guo, and S. Lazebnik, "Multi-Scale Orderless Pooling of Deep Convolutional Activation Features," *Proceedings of the European Conference on Computer Vision*, 2014, pp. 392-407. *Acceptance rate: 29%.*
- J. Tighe, M. Niethammer, and S. Lazebnik, "Scene Parsing with Object Instances and Occlusion Ordering," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2014, pp. 3748 - 3755. *Acceptance rate: 29%.*
- J. Tighe and S. Lazebnik, "Finding Things: Image Parsing with Regions and Per-Exemplar Detectors," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2013, pp. 3001 - 3008. *Oral, acceptance rate: 3.2%.*
- Y. Gong, S. Kumar, H. Rowley, and S. Lazebnik, "Learning Binary Codes for High-Dimensional Data Using Bilinear Projections," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2013, pp. 484 - 491. *Acceptance rate: 25.2%.*
- Y. Gong, S. Kumar, V. Verma and S. Lazebnik, "Angular Quantization-Based Binary Codes for Fast Similarity Search," *Advances in Neural Information Processing Systems*, 2012.
- J. Tighe and S. Lazebnik, "Understanding Scenes on Many Levels," *Proceedings of the International Conference on Computer Vision*, 2011, pp. 335-342. *Acceptance rate: 24%.*
- M. Pandey and S. Lazebnik, "Scene Recognition and Weakly Supervised Object Localization with Deformable Part-Based Models," *Proceedings of the International Conference on Computer Vision*, 2011, pp. 1307-1314. *Acceptance rate: 24%.*
- Y. Gong and S. Lazebnik, "Iterative Quantization: A Procrustean Approach to Learning Binary Codes," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2011, pp. 817-824. *Oral, acceptance rate: 3.5%.*

- Y. Gong and S. Lazebnik, "Comparing Data-Dependent and Data-Independent Embeddings for Classification and Ranking of Internet Images," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2011, pp. 2633-2640. *Acceptance rate: 26.4%.*

- J. Tighe and S. Lazebnik, "SuperParsing: Scalable Nonparametric Image Parsing with Superpixels," *Proceedings of the European Conference on Computer Vision*, 2010, vol. 5, pp. 352-365. *Acceptance rate: 27.7%.*

- J.-M. Frahm, P. Georgel, D. Gallup, T. Johnson, R. Raguram, C. Wu, Y.-H. Jen, E. Dunn, B. Clipp, S. Lazebnik, and M. Pollefeys, "Building Rome on a Cloudless Day," *Proceedings of the European Conference on Computer Vision*, 2010, vol. 4, pp. 368-381. *Acceptance rate: 27.7%.*

- M. Raginsky and S. Lazebnik, "Locality Sensitive Binary Codes from Shift-Invariant Kernels," *Advances in Neural Information Processing Systems*, 2009, pp. 1509-1517. *Acceptance rate: 24%.*

- S. Lazebnik and M. Raginsky, "An Empirical Bayes Approach to Contextual Region Classification," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 2009, pp. 2380-2387. *Acceptance rate: 26.2%.*

- M. Raginsky, S. Lazebnik, R. Willett, and J. Silva, "Near-Minimax Recursive Density Estimation on the Binary Hypercube," *Advances in Neural Information Processing Systems*, 2008, pp. 1305-1312.

- X. Li, C. Wu, C. Zach, S. Lazebnik, and J.-M. Frahm, "Modeling and Recognition of Landmark Image Collections Using Iconic Scene Graphs," *Proceedings of the European Conference on Computer Vision*, 2008, vol. 1, pp. 427-440. *Acceptance rate: 27.9%.*

- B. Davis and S. Lazebnik, "Analysis of Human Attractiveness Using Manifold Kernel Regression," *International Conference on Image Processing* (special session on aesthetics, mood, and emotion), 2008, pp. 109-112.

- R. Raguram and S. Lazebnik, "Computing Iconic Summaries of General Visual Concepts," *First IEEE Workshop on Internet Vision* (in conjunction with CVPR), 2008.

- S. Lazebnik and M. Raginsky, "Learning Nearest-Neighbor Quantizers from Labeled Data by Information Loss Minimization," *Proceedings of the International Conference on Artificial Intelligence and Statistics*, 2007, vol. 2, pp. 251-258. *Acceptance rate: 56.7%.*

- S. Lazebnik, C. Schmid, and J. Ponce, "Beyond Bags of Features: Spatial Pyramid Matching for Recognizing Natural Scene Categories," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, New York, June 2006, vol. 2, pp. 2169-2178. *Oral, acceptance rate: 4.8%.* ***Over 9500 citations on Google Scholar, winner of 2016 Longuet-Higgins Prize***.

- J. Zhang, M. Marszalek, S. Lazebnik, and C. Schmid, "Local Features and Kernels for Classification of Texture and Object Categories: A Comprehensive Study," *Beyond Patches Workshop* (in conjunction with CVPR), 2006.

- M. Raginsky and S. Lazebnik, "Estimation of Intrinsic Dimensionality Using High-Rate Vector Quantization," *Advances in Neural Information Processing Systems* 18, MIT Press, 2006, pp. 1105-1112. *Acceptance rate: 25%.*

- S. Lazebnik, C. Schmid, and J. Ponce, "A Maximum Entropy Framework for Part-Based Texture and Object Recognition," *Proceedings of the IEEE International Conference on Computer Vision*, Beijing, China, October 2005, vol. 1, pp. 832-838. *Acceptance rate: 19.8%.*

- S. Lazebnik, C. Schmid, and J. Ponce, "Semi-Local Affine Parts for Object Recognition," *Proceedings of the British Machine Vision Conference*, Kingston, UK, September 2004, vol. 2, pp. 959-968. *Oral, acceptance rate: 15%.*

- F. Rothganger, S. Lazebnik, C. Schmid, and J. Ponce, "Segmenting, Modeling, and Matching Video Clips Containing Multiple Moving Objects," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, Washington, DC, June 2004, vol. 2, pp. 914-921. *Acceptance rate: 29.8%.*

- S. Lazebnik, C. Schmid, and J. Ponce, "Affine-Invariant Local Descriptors and Neighborhood Statistics for Texture Recognition," *Proceedings of the International Conference on Computer Vision*, Nice, France, October 2003, pp. 649-655. *Acceptance rate: 20.6%.*

- S. Lazebnik and J. Ponce, "The Local Projective Shape of Smooth Surfaces and Their Outlines," *Proceedings of the International Conference on Computer Vision*, Nice, France, October 2003, pp. 83-89. *Acceptance rate: 20.6%.*

- S. Lazebnik, C. Schmid, and J. Ponce, "A Sparse Texture Representation Using Affine-Invariant Regions," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, Madison, WI, June 2003, Vol. II, pp. 319-324. *Oral: acceptance rate 6.6%.*

- F. Rothganger, S. Lazebnik, C. Schmid, and J. Ponce, "3D Object Modeling and Recognition Using Affine-Invariant Patches and Multi-View Spatial Constraints," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, Madison, WI, June 2003, Vol. II, pp. 272-277. *Oral: acceptance rate 6.6%.*

- S. Lazebnik, A. Sethi, C. Schmid, D. Kriegman, J. Ponce, and M. Hebert, "On Pencils of Tangent Planes and the Recognition of Smooth 3D Shapes from Silhouettes," *Proceedings of the European Conference on Computer Vision*, Copenhagen, Denmark, May 2002. Springer-Verlag Lecture Notes in Computer Science, vol. 2352, pp. 651-665. *Acceptance rate: 37.7%.*

- S. Lazebnik, E. Boyer, and J. Ponce, "On Computing Exact Visual Hulls of Solids Bounded by Smooth Surfaces," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, Kauai, Hawaii, December 2001, Vol. 1, pp. 156-161. *Oral, acceptance rate: 8.5%.*

Theses

- S. Lazebnik, *Local, Semi-Local and Global Models for Texture, Object and Scene Recognition*, Ph.D. Dissertation, University of Illinois at Urbana-Champaign, May 2006.

- S. Lazebnik, *Projective Visual Hulls*, M.S. Thesis, University of Illinois at Urbana-Champaign, December 2002.

Techical Reports

- L. Wang, C.-Y. Lee, Z. Tu, and S. Lazebnik, "Training deeper convolutional networks with deep supervision," arXiv preprint arXiv:1505.02496, 2015.

- S. Divvala, A. Efros, M. Hebert, and S. Lazebnik, "Unsupervised Patch-based Context from Millions of Images," CMU-RI-TR-11-38, 2011.

- S. Lazebnik, "Visibility-Based Pursuit Evasion in Three-Dimensional Environments," Beckman CVR Technical Report 2001-01.

Invited Talks

- *Old School vs. New School Methods in Computer Vision*, invited panel at ICCV, October 12, 2021.
- *Computer Vision: Looking Back to Look Forward*, IRIM Visiting Scholar Lectures, Georgia Tech, January 28 - February 6, 2020.
- *A Critical Look at Visual Grounding*, ICCV Workshop on Closing the Loop between Vision and Language (CLVL), October 28, 2019.
- *Adapting Neural Networks to New Tasks*, ECCV Women in Computer Vision Workshop, Munich, Germany, September 9, 2018
- *Towards Joint Understanding of Images and Language*
  - Workshop on Theory and Practice in Machine Learning and Computer Vision, Institute for Computational and Experimental Research in Mathematics, Brown University, February 2019
  - York University Centre for Vision Research Seminar, Toronto, Canada, September 28, 2018
  - Korean Conference on Computer Vision (keynote talk), Seoul, Korea, July 17, 2018

  - Machines Can See Summit, Moscow, Russia, June 8, 2018
  - University of Michigan Computer Vision Seminar, September 18, 2017
  - Toyota Technical Institute, Chicago, June 26, 2017
  - Facebook AI Research Paris, France, June 2, 2017
  - WILLOW Group Seminar, Paris, France, June 1, 2017
  - INRIA Rhône-Alpes, Montbonnot, France, May 30, 2017
  - Xerox Research Centre Europe, Meylan, France, May 29, 2017
- *Transfer of Specialized Knowledge for Vision-Language Tasks*
  - CVPR Workshop on Visual Question Answering, Honolulu, Hawaii, July 26, 2017
  - Workshop on Frontiers of Video Technology, Adobe San Jose, CA, July 18, 2017
- *Beyond Scene Classification: Understanding Scenes by Describing Them*, CVPR Scene Understanding Workshop, Las Vegas, June 26, 2016
- *Image Description: From Image-Sentence Embeddings to Region-Phrase Correspondence*, ICCV Workshop on Closing the Loop between Vision and Language, Santiago, Chile, December 17, 2015
- *Broad-Coverage Scene Parsing with Object Instances and Occlusion Ordering*, UT Austin, April 4, 2014
- *Image Parsing*, International Computer Vision Summer School, Calabria, Italy, July 17, 2013
- *Towards Open Universe Image Parsing with Broad Coverage*, keynote, IAPR International Conference on Machine Vision Applications, Kyoto, Japan, May 21, 2013
- *Finding Things: Image Parsing with Regions and Per-Exemplar Detectors*
  - Cornell University, May 3, 2013
  - Johns Hopkins Center for Imaging Science Seminar, April 30, 2013
  - WILLOW Group Seminar, Paris, France, March 21, 2013
- *Understanding Scenes with Superpixels and Object Detectors*
  - University of Washington, August 20, 2012
  - Microsoft Research Redmond, August 16, 2012
  - CMU VASC Seminar, April 9, 2012
- *Similarity-Preserving Binary Codes for Scalable Image Search*
  - Purdue University Machine Learning Seminar, April 17, 2012
  - Information Theory and Applications Workshop, San Diego, February 7, 2012
- *Modeling and Recognizing the Content of Open-Universe Image Collections*
  - Army Research Lab, December 5, 2011
  - University of Illinois at Urbana-Champaign, June 30, 2011
  - University of Minnesota, February 14, 2011
- *Understanding Scenes on Many Levels* (invited poster), Workshop on Frontiers in Computer Vision, MIT, August 22, 2011
- *Large-Scale Nonparametric Image Parsing*, CVPR 2011 Workshop on Large-Scale Learning for Vision, June 20, 2011
- *SuperParsing: Scalable Nonparameteric Parsing with Superpixels* (invited poster), Janelia Farm Workshop on Computer Vision and Neuroscience, November 15, 2010
- *Iconic Images*
  - Internet Vision Workshop, Banff, Canada, September 2, 2009
  - ICCV Area Chair Workshop, Kyoto University, June 8, 2009

  - CVPR Area Chair Workshop, Georgia Tech, February 23, 2009

- *Combining Appearance and Geometry for Efficient Scene Recognition*, IEEE Workshop on Visual Place Categorization, Miami, Florida, June 21, 2009
- *Representing Internet Photo Collections with Iconic Images*, Microsoft Research Redmond, June 30, 2008
- *An Empirical Bayes Approach to Contextual Region Classification*, Fourth International Workshop on Object Recognition, Lake Como, Italy, May 16, 2008
- *Exploring Image Data with Quantization-Based Techniques*, IPAM Workshop on Numerical Tools and Fast Algorithms for Massive Data Mining, Search Engines and Applications, UCLA, October 25, 2007
- *Object and Scene Recognition with Bags of Features and Spatial Pyramids*
  - Carnegie Mellon University, May 2, 2007
  - Microsoft Research, Redmond, April 16, 2007
  - University of California at San Diego, April 9, 2007
  - AT&T Research, April 5, 2007
  - New York University, April 4, 2007
  - State University of New York at Stony Brook, March 14, 2007
  - Kodak Research, March 7, 2007
  - University of Rochester, March 5, 2007
  - Duke University, February 28, 2007
  - University of North Carolina at Chapel Hill, February 26, 2007
- *Fun with Nearest-Neighbor Quantizers*, Carnegie Mellon University, VASC seminar, October 30, 2006
- *Improving Bag-of-Features Image Classification*, ETH Zurich, BIWI group seminar, September 12, 2006
- *The Beauty of Local Invariant Features*
  - Third Sicily Workshop on Object Recognition, September 21, 2006
  - Workshop on Visual Learning and Recognition, Institute for Mathematics and Its Applications, University of Minnesota, May 22, 2006
- *Local, Semi-Local and Global Models for Texture, Object and Scene Recognition*
  - University of Washington, April 13, 2006
  - University of Texas at Austin, March 28, 2006
  - Stanford University, March 6, 2006
  - University of Wisconsin at Madison, February 27, 2006
- *Local Image Features for Recognizing Textures, Objects, and Scenes*
  - Toyota Technical Institute, Chicago, February 2, 2006
  - Microsoft Research, Redmond, December 12, 2005
- *A Maximum Entropy Framework for Part-Based Texture and Object Recognition*
  - Snowbird Learning Workshop, April 6, 2005 (invited poster)
  - Workshop on Visual Recognition/Pattern Classification, Mathematical Sciences Research Institute, Berkeley, March 21, 2005
- *From Textons to Parts: Learning Texture and Object Representations Based on Local Image Features*
  - MIT Computer Science and Artificial Intelligence Lab, August 16, 2005
  - Stanford University, March 22, 2005
  - Xerox Research Centre Europe, February 22, 2005
- *Semi-Local Parts and Their Relations for Object Recognition*,

  - INRIA Rhône-Alpes, February 21, 2005
  - Second Sicily Workshop on Object Recognition, October 11, 2004

- *Learning Local Affine Representations for Texture and Object Recognition*
  - Microsoft Research, Cambridge, September 6, 2004
  - Oxford University Robotics Research Group Seminar, August 31, 2004
  - CalTech Vision Group Seminar, April 13, 2004
  - Snowbird Learning Workshop, April 8, 2004

- *Texture Recognition Using Affine-Invariant Regions*,
  - INRIA Rhône-Alpes, October 23, 2003
  - First Sicily Workshop on Object Recognition, September 10, 2003

Teaching Experience

University of Illinois at Urbana-Champaign

Fall 2021	CS 543/ECE 549: Computer Vision
Spring 2021	CS 498: Introduction to Deep Learning
Fall 2020	CS 498: Introduction to Deep Learning
Spring 2019	CS 543/ECE 549: Computer Vision
Fall 2018	CS 498: Introduction to Deep Learning
Spring 2018	CS 543/ECE 549: Computer Vision – ***made list of Teachers Ranked as Excellent***
Fall 2017	CS 440/ECE 448: Artificial Intelligence
Spring 2017	CS 598: Cutting-Edge Topics in Deep Learning and Recognition
Fall 2016	CS 440/ECE 448: Artificial Intelligence
Spring 2016	CS 543/ECE 549: Computer Vision
Fall 2015	CS 440/ECE 448: Artificial Intelligence
Spring 2015	CS 440/ECE 448: Artificial Intelligence
Spring 2014	CS 543/ECE 549: Computer Vision
Fall 2013	CS 440/ECE 448: Artificial Intelligence
Spring 2013	CS 543/ECE 549: Computer Vision
Fall 2012	CS 440/ECE 448: Artificial Intelligence

University of North Carolina at Chapel Hill

Fall 2011	COMP 590-096: Artificial Intelligence
Spring 2011	COMP 776: Computer Vision
Fall 2010	COMP 590-096: Artificial Intelligence
Spring 2010	COMP 776: Computer Vision
Fall 2009	COMP 875: Machine Learning Methods for Image Analysis
Spring 2009	COMP 776: Computer Vision
Fall 2008	COMP 790-096: Computational Photography
Spring 2008	COMP 776: Computer Vision – ***winner of UNC CSSA Teaching Award***
Fall 2007	COMP 790-096: Computer Vision and the Web

Mentoring

Ph.D. Advisees

- Unnat Jain (U of I, M.S. 2018, Siebel Scholar class of 2018, winner of 2018 David J. Kuck Outstanding M.S. Thesis Award, Ph.D. expected 2023)
- Jeffrey Zhang (U of I, Ph.D. expected 2023)
- Aiyu Cui (U of I, Ph.D. expected 2023)
- Daniel McKee (U of I, Ph.D. expected 2022)
- Bryan Plummer (U of I, Ph.D. 2018, now Assistant Professor at Boston University)

- Liwei Wang (U of I, Ph.D. 2018, now Assistant Professor at CUHK)
- Arun Mallya (U of I, M.S. 2014, Siebel Scholar class of 2014, Ph.D. 2018, now at NVIDIA Research)
- Yunchao Gong (UNC, Ph.D. 2014, winner of 2013 Google Ph.D. Fellowship in Machine Perception, now at Verkada)
- Joseph Tighe (UNC, Ph.D. 2013, now at Amazon)

M.S. Advisees

- Shubham Jain (U of I, M. S. 2019)
- Medhini Narasimhan (U of I, M.S. 2019, Siebel Scholar class of 2019, winner of 2019 David J. Kuck Outstanding M.S. Thesis Award)
- Jing Huang (U of I, M.S. 2018)
- Victor Ge (U of I, M.S. 2018)
- Hsiao-Ching Chang (U of I, M.S. 2018)
- Manav Kedia (U of I, M.S. 2017)
- Cecilia Mauceri (U of I, M.S. 2015)
- Mariyam Khalid (U of I, M.S. 2014)
- Hongtao Huang (UNC, M.S. 2013)
- Megha Pandey (UNC, M.S. 2011)
- Anson Liang (UNC, co-advised with Jan-Michael Frahm, M.S. 2011)
- Xiaowei Li (UNC, co-advised with Jan-Michael Frahm, M.S. 2010)

Ph.D. Committees

- U of I: Zicheng Liao, Scott Chen (ECE), Amin Sadeghi, Zhicheng Yan, Saurabh Singh, Daphne Tsatsoulis, Kevin Shih, Qieyun Dai, Ning Xu (ECE), Jiajun Lu, Jason Rock, Aditya Deshpande, Zhizhong Li, Tanmay Gupta
- UNC: Stephen Guy, Changchang Wu, Brian Clipp, David Gallup, Ilknur Kabul, Li Guan, Seon Joo Kim, Hadi Kiapour
- Duke: Susanna Ricco, Steve Gu

Post-Doctoral Scholars

- Tatiana Tommasi (UNC, co-advised with Alex and Tamara Berg, 2015-2016, now at Italian Institute of Technology)
- Juan Caicedo (U of I, 2012-2014, now at Broad Institute)

Professional Service

- Editor in Chief: International Journal of Computer Vision (since 2018)
- Associate editor:
  - International Journal of Computer Vision (2009-2018)
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (2014-2019)
- Conference program chair:
  - International Conference on Computer Vision, 2019
  - European Conference on Computer Vision, 2012
- Conference workshop chair: IEEE Conference on Computer Vision and Pattern Recognition, 2016
- Conference area chair:

  - IEEE Conference on Computer Vision and Pattern Recognition, 2009, 2011, 2013, 2014, 2015, 2018, 2019
  - IEEE International Conference on Computer Vision, 2009, 2011, 2017
  - Neural Information Processing Systems, 2015
  - European Conference on Computer Vision, 2016, 2018
- Conference session chair:
  - IEEE Conference on Computer Vision and Pattern Recognition, 2009 and 2011
  - IEEE International Conference on Computer Vision, 2011
- Conference awards committee: IEEE Conference on Computer Vision and Pattern Recognition, 2015, 2016, 2017
- Invited session/workshop co-organizer:
  - 2013 Annual Allerton Conference on Communication, Control and Computing invited session, "Active Learning, Search, and Visual Recognition"
  - NIPS 2010 workshop, "Beyond Classification: Machine Learning for Next Generation Computer Vision challenges"
- Conference reviewing (regular):
  - IEEE Conference on Computer Vision and Pattern Recognition
  - IEEE International Conference on Computer Vision
  - European Conference on Computer Vision
  - Advances in Neural Information Processing Systems
- Journal reviewing (regular):
  - Journal of Machine Learning Research
  - International Journal of Computer Vision
  - IEEE Transactions on Pattern Analysis and Machine Intelligence
  - IEEE Transactions on Image Processing
- Workshop program committees:
  - CVPR Scene Understanding Workshop, 2013
  - ICCV Workshop on 3D Representations for Recognition, 2007, 2009, 2011
  - ECCV Workshop on Reconstruction and Modeling of Large-Scale 3D Virtual Environments, 2010
  - CVPR Workshop on Advancing Computer Vision with Humans in the Loop, 2010
  - CVPR Joint Workshop on Visual and Contextual Learning, and Visual Scene Analysis, 2009
  - CVPR Workshop on Feature Detectors and Descriptors, 2009
  - International Workshop on Internet Vision, 2008 and 2009
  - International Workshop on Semantic Learning Applications in Multimedia, 2008 and 2009
- Panelist: NSF CISE, 2008, 2009, 2010, 2012, 2016, 2018
- Member of IEEE (Institute of Electrical and Electronics Engineers) since 1999, senior member since 2016

University Service

University of Illinois at Urbana-Champaign

- Faculty hiring committee, fall 2013 - spring 2017, fall 2018 - present
- AI group area chair, fall 2016 - fall 2018
- CS advisory committee, fall 2016 - spring 2018
- Graduate study committee, fall 2015 - spring 2016

- Appeals, capricious grading, and student petitions committee, fall 2013 - spring 2014
- Fellowships, assistantships, and admissions committee, fall 2012 - spring 2013
- Undergraduate study committee, fall 2012 - spring 2013
- CSE fellowship selection panel, spring 2012

University of North Carolina at Chapel Hill

- Graduate admissions committee, August 2007 - December 2011

Professional Development

- University of Illinois Academy for Excellence in Engineering Education (AE3) FastStart/Teaching College program, fall 2012 - spring 2013.