SERGE BELONGIE

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Education

UNIVERSITY OF CALIFORNIA, BERKELEY — Berkeley, CA
Ph.D. in Electrical Engineering and Computer Sciences, 2000.
M.S. in Electrical Engineering and Computer Sciences, 1997.
Dissertation: *Image Segmentation and Shape Matching for Object Recognition*
Advisor: Jitendra Malik.

CALIFORNIA INSTITUTE OF TECHNOLOGY — Pasadena, CA
B.S. in Electrical Engineering with Honor, 1995

Appointments

CORNELL UNIVERSITY & CORNELL TECH — Ithaca & New York, NY
January 2014-present
Professor, Department of Computer Science

CALIFORNIA INSTITUTE OF TECHNOLOGY — Pasadena, CA
July-September 2013
Visiting Associate in Electrical Engineering

CORNELL TECH — New York, NY
January-June 2013
Visiting Professor

ANCHOVI LABS — San Diego, CA
November 2011-September 2012
Co-founder and Technical Advisor. Acquired by Dropbox, Inc.

UNIVERSITY OF CALIFORNIA, SAN DIEGO — La Jolla, CA
July 2001-December 2013
Professor (2011-2013), Associate Professor (2007-present), Assistant Professor (2001-2007), Department of Computer Science and Engineering

ORPIX, INC. — Huntington Beach, CA
April 2009-Present
Co-founder and Technical Advisor

CALIFORNIA INSTITUTE OF TECHNOLOGY — Pasadena, CA
April-December 2008
Visiting Associate in Electrical Engineering

CARCODE CORPORATION Del Mar, CA
March 2007-January 2009
Co-founder and Technical Advisor. Acquired by Transport Data Systems

DIGITAL PERSONA, INC. Redwood City, CA
June 1993-April 2014
Co-founder and Chief Researcher. Acquired by Crossmatch, Inc.

CALIFORNIA INSTITUTE OF TECHNOLOGY Pasadena, CA
Summer 1993 & 1994
Summer Undergraduate Research Fellow (SURF), Department of Electrical Engineering

CORNELL UNIVERSITY Ithaca, NY
June-September 1992
NSF REU Research Assistant, Department of Electrical Engineering

Teaching

CORNELL UNIVERSITY New York, NY
CS 6670, *Computer Vision*, Spring 2015
CS 5356, *Building Startup Systems*, Fall 2014
CS 5785, *Applied Machine Learning*, Spring 2013, Spring 2014, Fall 2015, Fall 2016

UNIVERSITY OF CALIFORNIA, SAN DIEGO La Jolla, CA
CSE 252, *Computer Vision*, Spring 2002-2003
CSE 155, *Projects in Vision & Learning*, Winter 2006-2012
CSE 166, *Image Processing*, Winter 2002, Fall 2002-2013
CSE 252C, *Topics in Vision & Learning*, Fall 2001-2012
CSE 252B, *Computer Vision II*, Spring 2004-2012
COGS 87, *Seminar: Computation, Vision & Cognition in Film*, Winter 2006
ENG 100L, *Teams in Engineering Service*, Winter 2007-Fall 2011

UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP) Campinas, Brazil
Short Course on Grouping and Recognition, Summer 2005

UNIVERSITY OF CALIFORNIA, BERKELEY Berkeley, CA
CS 188, *Introduction to Artificial Intelligence*, Fall 1998: Grad Student Instructor

CALIFORNIA INSTITUTE OF TECHNOLOGY Pasadena, CA
EE 32ab, *Signals and Systems*, 1994-1995: Teaching Assistant
EE 1, *Introduction to Electrical Engineering*, 1995: Teaching Assistant

Selected Honors

Cornell Tech Professor of the Year, 2015-2016
Helmholtz Prize (ICCV Test of Time), 2015.
WACV Best Paper Award in Vision & Learning, 2015.
HCOMP Best Paper Runner Up, 2015.
ASRM Video Presentation Award Honorable Mention, 2014.

NIPS Best Student Paper Honorable Mention, 2010.
Marr Prize (ICCV Best Paper) Honorable Mention, 2007.
DARPA Computer Science Futures participant, 2007.
NAE Frontiers of Engineering participant, 2005.
Alfred P. Sloan Research Fellow, 2005-2007.
NSF CAREER Award, 2005-2010.
MIT Technology Review TR100 (top 100 innovators under the age of 35), 2004.
T-Sector Magazine's Ten Top Talents for the Future of San Diego Technology, 2003.
NSF Graduate Research Fellowship, 1996-1999.
U.C. Berkeley Chancellor's Opportunity Predoctoral Fellowship, 1995-1998.
Caltech Merit Award, 1994-1995.
NSF Incentives for Excellence Scholarship Prize, 1994.
Carl and Shirley Larson SURF Fellow, 1993 & 1994.
NSF Research Experiences for Undergraduates (REU) Program, 1992.
Robert J. Kieckhefer, Jr. Memorial Scholarship, 1992 & 1993.
Intel Outstanding Senior Scholarship, 1991.

Professional Activities

Co-founder and President: Common Visual Data Foundation (CVDF), 2016 - Present.

Co-organizer: ICDAR2017 Robust Reading Challenge on COCO-Text, 2017.

Program Chair: IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2012; CVPR Workshop on Visual Scene Understanding, 2009; NIPS Workshop on Human Computation for Science and Computational Sustainability, 2012; ACCV Workshop on Detection and Tracking in Challenging Environments, 2012; CVPR Workshop on Frontiers in Computer Vision: Outreach & Core, 2012.

General Chair: IEEE Workshop on Applications of Computer Vision (WACV), 2014.

Area Chair: IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2006, 2007, 2011, 2015, 2016; International Conference on Computer Vision (ICCV), 2013; European Conference on Computer Vision (ECCV), 2010; Asian Conference on Computer Vision (ACCV), 2012; Neural Information Processing Systems (NIPS), 2013.

PAMI TC Conference Committee, 2013-present.

Paper Awards Committee: CVPR, 2014.

Tutorials/Short Courses Chair: IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2010.

Local Arrangements Chair: IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2005.

Associate Editor: IEEE Trans. Pattern Analysis and Machine Intelligence (TPAMI), 2008-2012.

Guest Editor, International Journal of Computer Vision (IJCV), 2013.

Steering Committee: Workshop on Human Computation for Image and Video Analysis (GroupSight), 2016.

Award Committee, European Conference on Computer Vision (ECCV), 2012.

Senior Program Committee: AAAI Conference on Human Computation and Crowdsourcing (HCOMP), 2016.

Program Committee: European Conference on Computer Vision (ECCV), 2002, 2004; IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2003, 2004; IEEE International Conference on Computer Vision (ICCV), 2003; IEEE International Workshop on Dynamical Vision, 2005; Workshop on Computer Vision Applications for the Visually Impaired, 2008, 2010, 2012; Workshop on Automating Computer Vision with Humans in the Loop, 2010; Workshop on Human Computation, 2009-2012; IEEE Workshop on Motion and Video Computing, 2009; Workshop on Energy Minimization Methods for Computer Vision and Pattern Recognition, 2006; Neural Information Processing Systems (NIPS), 2006; Workshop on Semantic Learning Applications of Multimedia, 2007; Workshop on Human Computer Interaction, 2009; Workshop on Component Analysis for Computer Vision, 2009; ICCV Workshop on 3D Representation and Recognition, 2011; ICCV Workshop on Human Interaction in Computer Vision, 2011; ECCV/CVPR Workshop on Visual Analysis and Geo-Localization of Large-Scale Imagery, 2012 & 2013; ECCV Workshop on Re-Identification, 2012; CVPR Scene Understanding Workshop, 2013; CVPR Workshop on Visual Analysis Beyond Semantics, 2013; International Workshop on Robust Reading (IWRR) at ECCV, 2016; Workshop on Web-scale Vision and Social Media (VSM) at ECCV, 2016; Workshop on Egocentric (First-Person) Vision at CVPR, 2016; Workshop on Automated Analysis of Video Data for Wildlife Surveillance at WACV, 2016.

Reviewer: IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), IEEE Transactions on Image Processing, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), IEEE International Conference on Computer Vision (ICCV), European Conference on Computer Vision (ECCV), Neural Information Processing Systems (NIPS), Journal of Image and Vision Computing (IVC), Journal of Machine Learning Research (JMLR), ACM Transactions on Graphics (TOG), SIGGRAPH.

CVPR Doctoral Consortium Panel, 2010, 2014, 2016.

NSF Panels: Robotics and Human Augmentation (RHA), 2002; Small Business Innovation Research (SBIR), 2002; Computer Vision CAREER, 2010.

ArtFoo Chair, 2017-present.

Contributor to Revealing Bodies exhibit, Exploratorium, San Francisco, 2000.

Invited Seminars

"COCO-Text: Overview & What's Next," International Workshop on Robust Reading at ECCV, Oct. 2016 (keynote).

"Fine Grained Visual Category Recognition and Perceptual Embedding," New York R conference, Apr. 2017 (keynote); Global Biodiversity Information Facility (GBIF), Feb. 2017; Warby Parker, Oct. 2016; Binghamton University, Sep. 2016 (distinguished lecture); Google Tech Talk, Jul. 2016; Oxford University, Jul. 2016; Tompkins County Area Development (TCAD) Annual Meeting, May 2016 (keynote); Winter Conference on Applications of Computer Vision (WACV), Jan. 2016 (keynote).

"Visipedia Tool Ecosystem for Dataset Curation and Annotation," CVPR Workshop on Computer Vision and Human Computation, June 2014; ECCV Workshop on Parts and Attributes, September 2014; NYC Computer Vision Meetup, December 2014; Danish Technical University (DTU), June 2015; Yahoo Labs NYC, December 2015.

"The Visipedia Field Guide to North American Birds," ECCV Workshop on Computer Vision for the Web, Oct. 2012; Brown University, Feb. 2014; Stony Brook University, May 2014; NRC Workshop on Automating Image and Video Analysis for Fisheries Stock Assessment, May 2014.

"Visual Recognition with Humans in the Loop," NYU & Columbia, Mar. 2010; ENS Paris, INRIA Grenoble, Oxford University, Jun. 2010; Microsoft Research New England & MIT CSAIL, Jul. 2010; UT Austin, Feb. 2011; MPI-CBG Dresden, May 2011; Willow Garage & MPI Tubingen, Jun. 2011; Simula Research Lab (U. Oslo), Jul. 2011; MBL Woods Hole, Oct. 2011; Claremont Graduate University, Feb. 2012; Google LAX, U. Pennsylvania and CMU, Mar. 2012; SoCal Vision Meetup, May 2012; U. Zaragoza & Google NYC, June 2012; Fudan University & Xi'an Jiaotong University, July 2012; Cornell University, Aug. 2012; Seoul National University and KAIST, Sept. 2012; NYC Machine Learning Meetup, Nov. 2012; SRI Princeton, Mar. 2013; Cornell CS Colloquium, Apr. 2013; eBay Research Labs Distinguished Lecture, May 2013; U. Maryland HCIL Symposium, May 2013; Facebook, May 2013; Greater New York Multimedia and Vision Meeting Keynote, June 2013; ISVC Keynote, July 2013; University College London, August 2013.

"Assistive Vision Technology for the Blind: Recognizing Objects in the Grocery Store," Harvey Mudd College, Oct. 2006; Google Mountain View, Sep. 2006; UC Riverside, April 2007; California State Summer School for Mathematics and Science (COSMOS) hosted at SPAWAR, July 2007; Monrovia High School, Dec. 2008.

"Visipedia: Visual Systems Composed of People and Machines," International Computer Vision Summer School, 2013.

"Shape Matching," International Computer Vision Summer School, 2007.

"Toward a Perceptual Space for Reflectance," Caltech March 2006, UCLA April 2006, Microsoft Research (Redmond), July 2006; U. Washington July 2006; UBC, July 2006.

"Beyond Pairwise Clustering," U.C. Irvine, March 2005; Johns Hopkins University, May 2005; Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, July 2005; U.v. Amsterdam, August 2005; TU Delft, August 2005; University of São Paulo, São Carlos, August 2005; Columbia University, September 2005.

"Behavior Recognition via Spatio-Temporal Features," LLNL, Nov. 2004.

"Monitoring Animal Behavior in the Smart Vivarium," UCLA, Sept. 2004; Caltech, Nov. 2004.

"Methods for Shape Matching and Motion Segmentation," Max Planck Institute, Tübingen, Germany, May 2004.

"Smart Vivarium for Medical Research," UCSD Jacobs School Research Review Keynote Lecture, Feb. 2004.

"Three Brown Mice: See How They Run: Monitoring Rodent Behavior in the Smart Vivarium," Naval Research Laboratory, Washington DC, Nov. 2003; LLNL, Jan. 2004; Columbia University, Feb. 2004; New York University, Feb. 2004.

"Shape Matching and Image Segmentation," UC Irvine, Feb. 2002, LLNL, June 2002.

"Matching Shapes," UCSD, Feb. 2001; UC Santa Cruz, Mar. 2001; Michigan State University, Mar. 2001; UCLA, Apr. 2001.

"The Normalized Cuts Approach to Grouping," Caltech, Mar. 1998.

"Recognizing Spoken Words from Lip Movement," Linköping University, Sweden, June 1995.

Grants

Adobe Research Award: Adobe Systems Incorporated Award, 2016-2017, $25k, PI.

Focused Research Award: Visipedia, Google, 2016-2018, $1.5M, co-PI.

COCO-Text Dataset, Facebook Research Award, 2016, $50k, PI.

Amazon Web Services Research Award, 2015, $10k, PI.

MS-COCO Annotation, Microsoft Research, 2015, $35k, PI.

Binocular Vision: Computer-Enabled Optics to Identify Birds, Jacobs Institute, 2014-2016, $25k, co-PI.

Common Objects in Context Dataset, Microsoft Research, 2014, $25k, PI.

Focused Research Award: Never Failing Goggles, Google, 2013-2015, $1.5M, co-PI.

Active Illumination Based Structure Recovery and Material Recognition, Cognex, 2012-2013, $100k, co-PI.

Videotext Detection and Recognition, Samsung, 2012-2013, $100k, PI.

Expert Huddles for for Distributed Image Annotation, Qualcomm, 2012, $28,750, PI.

OCR in the Wild, Google Research Award, 2011-12, $70k, PI.

AWS in Education Grant, Amazon, 2011-2013, $7,500 (PI).

Computer Vision Coral Ecology: Cyber-Enabled Image Classification for Rapid, Large Scale, Automated Monitoring of Climate Change Impacts on Coral Reefs, NSF, 2009-2012, $1,999,440, co-PI.

YouTube Video Genre Classication, Google Research Award, 2009-2010, $65,000.

MURI: Remote Multi-modal Biometrics for Maritime Domain, ONR, 2008-2013, $1,275,000, Co-PI.

Computer Science Futures II: Engaging Young Scholars in Computer Science, DARPA, 2008-2011, $286k, PI.

Segmentation-Based Recognition: Incorporating Shape into a Parts-Based Model, Google Research Award, 2007-2008, $75,000.

Vision-based Object Detection/Recognition for Mobile Robots, SPAWAR, 2006, $36,000.

NSF Research Experience for Undergraduates (REU) supplement, 2006-2007, $12,000.

CAREER: Algorithms for Nonrigid Structure from Motion, NSF, 2005-10, $400k, PI.

A Regularization Based Approach to Non-Rigid Structure from Motion, DOE, 2004-2005, $30,000.

Multiple Animal Tracking in the Smart Vivarium, DOE, 2004, $30,500.

Feature-Based Approaches for Long-Range Motion Segmentation and Object Tracking, DOE, 2003-2004, $40,121.

IGERT: Vision and Learning in Humans and Machines, NSF, 2003-2008, $3,400,000 (senior personnel).

Automated Tissue Microarray Analysis, Hellman Fellowship Program, 2003-2004, $20,000.

Computationally Efficient Example-Based Image Segmentation, DOE, 2002-2003, $39,494.

Journal Articles

B.A. Levine, J. Feinstein, Q.V. Neri, D. Goldschlag, Z. Rosenwaks, S. Belongie and G.D. Palermo, "Three-dimensional sperm surface reconstruction: a novel approach to assessing sperm morphology," *Fertility and Sterility,* **104**(6), e14-e15, 2015.

S. Belongie and P. Perona, "Visipedia circa 2015," *Pattern Recognition Letters*, December 2015.

P. Dollár, R. Appel, S. Belongie and P. Perona, "Fast Feature Pyramids for Object Detection," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2014.

D. Lluncor, S. Belongie, P. Rullan and V. Morhenn, "Regression and classification methods for nasolabial folds," *Journal of Dermatology*, **41**(1), pp. 92-7, 2014.

C. Barngrover, R. Kastner and S. Belongie, "Semisynthetic Versus Real-World Sonar Training Data for the Classification of Mine-Like Objects," *IEEE Journal of Oceanic Engineering*, 2014.

S. Branson, G. Van Horn, C. Wah, P. Perona and S. Belongie, "The Ignorant Led by the Blind: A Hybrid Human–Machine Vision System for Fine-Grained Categorization," *International Journal of Computer Vision (IJCV)*, 2014.

B. Babenko, M. Yang and S. Belongie, "Visual Tracking with Online Multiple Instance Learning," *IEEE Trans. Pattern Analysis and Machine Intelligence (TPAMI)*, **33**(8):1619-1632, August 2011.

C. Galleguillos and S. Belongie, "Context Based Object Categorization: A Critical Survey," Computer Vision and Image Understanding (CVIU), vol. 114, pp. 712-722, 2010.

M. Chandraker, S. Agarwal, D. Kriegman and S. Belongie, "Globally Optimal Algorithms for Stratified Autocalibration," *International Journal of Computer Vision (IJCV)*, **90**(2):236-254, November 2010.

J. Wills, S. Agarwal, D. Kriegman and S. Belongie, "Toward a perceptual space for reflectance," *ACM Transactions on Graphics (TOG)*, **28**(4):1-15, 2009

M. Koch, J. Maltz, S. Belongie, B. Gangadharan, S. Bose and A. Bani-Hashemi, "Automatic coregistration of volumetric images based on implanted fiducial markers," *Medical Physics*, **35**(10):4513-23, October 2008.

F. Kahl, S. Agarwal, M. Chandraker, D. Kriegman and S. Belongie, "Practical Global Optimization for Multiview Geometry," *International Journal of Computer Vision*

(IJCV), **79**(3):271-284, September 2008.

J. Wills, S. Agarwal and S. Belongie, "A Feature-based Approach for Dense Segmentation and Estimation of Large Disparity Motion," *International Journal of Computer Vision (IJCV)*, **68**(2):125-143, June 2006.

A. Rabinovich, S. Krajewski, M. Krajewska, A. Shabaik, S.M. Hewitt, S. Belongie, J.C. Reed, J.H. Price, "Automated Scanning and Display of Tissue Microarrays," *IEEE Trans. Information Technology in Biomedicine*, **10**(12):209-219, April 2006.

G. Mori, S. Belongie and J. Malik, "Efficient Shape Matching Using Shape Contexts," *IEEE Trans. Pattern Analysis and Machine Intelligence (TPAMI)*, **27**(11):1832-1837, November 2005.

C. Fowlkes, S. Belongie, F. Chung and J. Malik, "Spectral Grouping Using the Nyström Method," *IEEE Trans. Pattern Analysis and Machine Intelligence (TPAMI)*, **26**(2):214 - 225, Feb. 2004.

J. Carballido Gamio, S. Belongie and S. Majumdar, "Normalized Cuts in 3D for Spinal MRI Segmentation," *IEEE Trans. Medical Imaging*, **23**(1):36-44, January 2004.

S. Agarwal, R. Ramamoorthi, S. Belongie and H.W. Jensen, "Structured Importance Sampling of Environment Maps," *ACM Transactions on Graphics - Proceedings of SIGGRAPH*, **22**(3):605-612, July 2003.

S. Belongie, J. Malik, and J. Puzicha, "Shape Matching and Object Recognition Using Shape Contexts," *IEEE Trans. Pattern Analysis and Machine Intelligence (TPAMI)*, **24**(4):509-522, April 2002.

C. Carson, S. Belongie, H. Greenspan, and J. Malik, "Color- and Texture-Based Image Segmentation Using Expectation-Maximization and Its Application to Image Querying and Classification," *IEEE Trans. Pattern Analysis and Machine Intelligence (TPAMI)*, **24**(8), Aug. 2002.

J. Malik, S. Belongie, T. Leung, and J. Shi, "Contour and Texture Analysis for Image Segmentation," *International Journal of Computer Vision (IJCV)*, **43**(1):7-27, June 2001.

Papers in Reviewed Proceedings

Hsieh, Cheng-Kang; Yang, Longqi; Cui, Yin; Lin, Tsung-Yi; Belongie, Serge; Estrin, Deborah, "Collaborative Metric Learning," *International Conference on World Wide Web (WWW)*, Perth, 2017 (to appear).

Veit, Andreas; Wilber, Michael; Belongie, Serge, "Residual Networks Behave Like Ensembles of Relatively Shallow Networks," *Neural Information Processing Systems (NIPS)*, Barcelona, 2016.

Tripathi, Subarna; Lipton, Zachary; Belongie, Serge; Nguyen, Truong, "Context Matters:

Refining Object Detection in Video with Recurrent Neural Networks," *To appear in the British Machine Vision Conference (BMVC)*, 2016.

Moghimi, Mohammad; Saberian, Mohammad; Yang, Jian; Li, Li-Jia; Vasconcelos, Nuno; Belongie, Serge, "Boosted Convolutional Neural Networks," *British Machine Vision Conference (BMVC)*, York, UK, 2016.

Altwaijry, Hani; Veit, Andreas; Belongie, Serge, "Learning to Detect and Match Keypoints with Deep Architectures," *British Machine Vision Conference (BMVC)*, York, UK, 2016.

Lin, Tsung-Yi; Belongie, Serge; Hays, James, "Cross-View Image Geo-localization," Zamir, Amir; Hakeem, Asaad; Gool, Luc Van; Shah, Mubarak; Szeliski, Richard (Ed.): *Large-Scale Visual Geo-Localization*, pp. 59-76, Springer, 2016.

Altwaijry, Hani; Trulls, Eduard; Hays, James; Fua, Pascal; Belongie, Serge, "Learning to Match Aerial Images with Deep Attentive Architectures," *Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, NV, 2016.

Cui, Yin; Zhou, Feng; Lin, Yuanqing; Belongie, Serge, "Fine-grained Categorization and Dataset Bootstrapping using Deep Metric Learning with Humans in the Loop," *Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, NV, 2016.

Karaletsos, Theofanis; Belongie, Serge; Rätsch, Gunnar, "Bayesian representation learning with oracle constraints," *International Conference on Learning Representations (ICLR)*, San Juan, PR, 2016.

Tripathi, Subarna; Belongie, Serge; Hwang, Youngbae; Nguyen, Truong, "Detecting Temporally Consistent Objects in Videos through Object Class Label Propagation," *Winter Conference on Applications of Computer Vision (WACV)*, 2016.

Wilber, Michael; Shmatikov, Vitaly; Belongie, Serge, "Can we still avoid automatic face detection?," *Winter Conference on Applications of Computer Vision (WACV)*, 2016.

Veit, Andreas; Kovacs, Balazs; Bell, Sean; McAuley, Julian; Bala, Kavita; Belongie, Serge, "Learning Visual Clothing Style with Heterogeneous Dyadic Co-occurrences," *International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

Wilber, Michael; Kwak, Iljung; Kriegman, David; Belongie, Serge, "Learning Concept Embeddings with Combined Human-Machine Expertise," *International Conference on Computer Vision (ICCV)*, 2015.

Belongie, Serge; Perona, Pietro, "Visipedia circa 2015," *Pattern Recognition Letters*,

2015.

Patterson, Genevieve; Horn, Grant Van; Belongie, Serge; Perona, Pietro; Hays, James, "Tropel: Crowdsourcing Detectors with Minimal Training," *Human Computation (HCOMP)*, San Diego, CA, 2015. **Best Paper Award Runner-Up**

Veit, Andreas; Wilber, Michael; Vaish, Rajan; Belongie, Serge; Davis, James; others, "On Optimizing Human-Machine Task Assignments," *AAAI Conference on Human Computation and Crowdsourcing (HCOMP) Work in Progress*, San Diego, CA, 2015.

Yang, Longqi; Cui, Yin; Zhang, Fan; Pollak, John; Belongie, Serge; Estrin, Deborah, "PlateClick: Bootstrapping Food Preferences Through an Adaptive Visual Interface," *International Conference on Information and Knowledge Management (CIKM 2015)* , Melbourne, 2015.

Levine, Brian; Feinstein, Jeremy; Neri, Queenie; Goldschlag, Dan; Rosenwaks, Zev; Belongie, Serge; Palermo, Gianpiero, "Three-dimensional sperm surface reconstruction: a novel approach to assessing sperm morphology," *Fertility and Sterility*, in press 2015.

Lin, Tsung-Yi; Cui, Yin; Belongie, Serge; Hays, James, "Learning Deep Representations for Ground-to-Aerial Geolocalization," *Computer Vision and Pattern Recognition (CVPR)*, Boston, MA, 2015.

Van Horn, Grant; Branson, Steve; Farrell, Ryan; Haber, Scott; Barry, Jessie; Ipeirotis, Panos; Perona, Pietro; Belongie, Serge, "Building a Bird Recognition App and Large Scale Dataset With Citizen Scientists: The Fine Print in Fine-Grained Dataset Collection," *Computer Vision and Pattern Recognition (CVPR)*, Boston, MA, 2015.

Wah, Catherine; Maji, Subhransu; Belongie, Serge, "Learning Localized Perceptual Similarity Metrics for Interactive Categorization," *IEEE Winter Conference on Applications of Computer Vision (WACV)*, Waikoloa Beach, HI, 2015. **Best Paper Award for Vision & Learning Session**

Moghimi, Mohammad; Kerr, Jacqueline; Johnson, Eileen; Godbole, Suneeta; Belongie, Serge, "Discriminative Regions: A Substrate for Analyzing Life-logging Image Sequences," *MultiMedia Modelling (MMM)*, Sydney, Australia, 2015.

Branson, Steve; Horn, Grant Van; Belongie, Serge; Perona, Pietro, "Bird Species Categorization Using Pose Normalized Deep Convolutional Nets," *British Machine Vision Conference (BMVC)*, Nottingham, 2014.

Moghimi, Mohammad; Wu, Wanmin; Chen, Jacqueline; Godbole, Suneeta; Marshall, Simon; Kerr, Jacqueline; Belongie, Serge, "Analyzing Sedentary Behavior in

Life-logging Images," *IEEE International Conference on Image Processing (ICIP)* 2014.

Dollár, Piotr; Appel, Ron; Belongie, Serge; Perona, Pietro, "Fast Feature Pyramids for Object Detection," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2014.

Altwaijry, Hani; Moghimi, Mohammad; Belongie, Serge, "Recognizing Locations with Google Glass: A Case Study," *IEEE Winter Conference on Applications of Computer Vision (WACV)*, Steamboat Springs, Colorado, 2014.

Nguyen, Phuc Xuan; Wang, Kai; Belongie, Serge, "Video Text Detection and Recognition: Dataset and Benchmark," *Winter Conference on Applications of Computer Vision (WACV)*, Steamboat Springs, CO, 2014.

Lluncor, David; Belongie, Serge; Rullan, Peter; Morhenn, Vera, "Regression and classification methods for nasolabial folds," *Journal of Dermatology*, 41 (1), pp. 92-7, 2014.

Tripathi, Subarna; Hwang, Youngbae; Belongie, Serge; Nguyen, Truong, "Improving Streaming Video Segmentation with Early and Mid-Level Visual Processing," *Winter Conference on Applications of Computer Vision (WACV)*, Steamboat Springs, CO, 2014.

Barngrover, Christopher; Kastner, Ryan; Belongie, Serge, "Semisynthetic Versus Real-World Sonar Training Data for the Classification of Mine-Like Objects," *IEEE Journal of Oceanic Engineering*, 2014.

Branson, Steve; Horn, Grant Van; Wah, Catherine; Perona, Pietro; Belongie, Serge, "The Ignorant Led by the Blind: A Hybrid Human–Machine Vision System for Fine-Grained Categorization," *International Journal of Computer Vision (IJCV)*, 2014.

Wah, Catherine; Horn, Grant Van; Branson, Steve; Maji, Subhransu; Perona, Pietro; Belongie, Serge, "Similarity Comparisons for Interactive Fine-Grained Categorization," *Computer Vision and Pattern Recognition (CVPR)*, Columbus, OH, 2014.

Cao, Chong; Kwak, Sam; Belongie, Serge; Kriegman, David; Ai, Haizhou, "Adaptive Ranking of Facial Attractiveness," *IEEE International Conference on Multimedia & Expo (ICME)*, Chengdu, 2014.

Moghimi, Mohammad; Azagra, Pablo; Montesano, Luis; Murillo, Ana; Belongie, Serge, "Experiments on an RGB-D Wearable Vision System for Egocentric Activity Recognition," *CVPR Workshop on Egocentric (First-person) Vision*, Columbus, OH, 2014.

Lin, Tsung-Yi; Maire, Michael; Belongie, Serge; Hays, James; Perona, Pietro; Ramanan, Deva; Dollár, Piotr; Zitnick, Lawrence, "Microsoft COCO: Common Objects in Context," *European Conference on Computer Vision (ECCV)*, Zürich, 2014.

Wilber, Michael; Kwak, Sam; Belongie, Serge, "Cost-Effective HITs for Relative Similarity Comparisons," *Human Computation and Crowdsourcing (HCOMP)*, Pittsburgh, 2014.

Matera, Tomas; Jakes, Jan; Cheng, Munan; Belongie, Serge, "A User Friendly Crowdsourcing Task Manager," *Workshop on Computer Vision and Human Computation*, Columbus, OH, 2014.

A. Flores, E. Christiansen, D. Kriegman and S. Belongie, "Camera distance from face images," *International Symposium on Visual Computing (ISVC)*, Crete, July 2013.

E. Christiansen, I. Kwak, S. Belongie, D. Kriegman, "Face box shape and verification," *International Symposium on Visual Computing (ISVC)*, Crete, July 2013.

G. Patterson, G. Van Horn, S. Belongie, P. Perona and J. Hays, "Bootstrapping Fine-Grained Classifiers: Active Learning with a Crowd in the Loop," *NIPS Workshop on Crowdsourcing: Theory, Algorithms and Applications*, Lake Tahoe, December 2013.

Kwak I., Murillo A.C., Belhumeur P., Belongie S., Kriegman D., "From Bikers to Surfers: Visual Recognition of Urban Tribes," *British Machine Vision Conference (BMVC)*, Bristol, September, 2013.

Christiansen E., Rabaud V., Ziegler A., Essa I., Kriegman D., Belongie S., "Match-time covariance for descriptors," *British Machine Vision Conference (BMVC)*, Bristol, September, 2013.

Altwaijry H., Belongie S., "Ultra-wide Baseline Aerial Imagery Matching in Urban Environments," *British Machine Vision Conference (BMVC)*, Bristol, September, 2013.

S. Branson, O. Beijbom and Belongie S., "Efficient Large-Scale Structured Learning," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Portland, OR, June, 2013.

T-Y. Lin, S. Belongie and J. Hays, "Cross-view Image Geolocalization," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Portland, OR, June, 2013.

C. Wah and S. Belongie, "Attribute-Based Detection of Unfamiliar Classes with Humans in the Loop," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Portland, OR, June, 2013.

H. Altwaijry and S. Belongie, "Relative Ranking of Facial Attractiveness," *Workshop on the Applications of Computer Vision (WACV)*, Clearwater Beach, Florida, January, 2013.

Murillo A.C., Kwak I., Bourdev L., Kriegman D., Belongie S., "Urban Tribes: Analyzing Group Photos from a Social Perspective," *CVPR Workshop on Socially Intelligent Surveillance and Monitoring*, Providence, RI, June, 2012.

A. Ziegler, S. Belongie, "Non-Rigid Surface Detection for Gestural Interaction with Applicable Surfaces," *Applications of Computer Vision (WACV)*, Breckenridge, CO, January, 2012.

A. Ziegler, E. Christiansen, D. Kriegman, S. Belongie, "Locally Uniform Comparison Image Descriptor," *Advances in Neural Information Processing Systems (NIPS)*, Lake Tahoe, NV, pp. 1-9, December, 2012.

C. Barngrover, S. Belongie and R. Kastner, "JBoost Optimization of Object Detectors for Autonomous Underwater Vehicle Navigation," *International Conference on Computer Analysis of Images and Patterns (CAIP)*, Seville, Spain, 2011.

C. Wah, S. Branson, P. Perona and S. Belongie, "Interactive Localization and Recognition of Fine-Grained Visual Categories," *IEEE International Conference on Computer Vision (ICCV)*, Barcelona, 2011.

S. Branson, P. Perona and S. Belongie, "Strong Supervision From Weak Annotation: Interactive Training of Deformable Part Models," *IEEE International Conference on Computer Vision (ICCV)*, Barcelona, 2011.

F. Schroff, T. Treibitz, D. Kriegman and S. Belongie, "Pose, Illumination and Expression Invariant Pairwise Face-Similarity Measure via Doppelganger List Comparison," *IEEE International Conference on Computer Vision (ICCV)*, Barcelona, 2011.

K. Wang, B. Babenko and S. Belongie, "End-to-End Scene Text Recognition," *IEEE International Conference on Computer Vision (ICCV)*, Barcelona, 2011.

O. Tamuz, C. Liu, S. Belongie, O. Shamir and A. Kalai, "Adaptively Learning the Crowd Kernel," *International Conference on Machine Learning (ICML)*, Bellevue, WA, 2011.

B. Babenko, N. Varma, P. Dollár and S. Belongie, "Multiple Instance Learning with Manifold Bags," *International Conference on Machine Learning (ICML)*, Bellevue, WA, 2011.

T. Yoshida, K. Kitani, S. Belongie, K. Schlei and H. Koike, "EdgeSonic: Image Feature Sonication for the Visually Impaired," *International Conference on the Augmented Human*, Tokyo, 2011.

C. Galleguillos, B. McFee, S. Belongie and G. Lanckriet, "From Region Similarity to Category Discovery," *IEEE Conference on Computer Vision and Pattern Recognition*

(CVPR), Colorado Springs, 2011.

P. Krishnasamy, S. Belongie and D. Kriegman, "Wet Fingerprint Recognition: Challenges and Opportunities," *International Joint Conference on Biometrics (IJCB)*, Washington, DC, October, 2011.

T. Yoshida, K. Kitani, S. Belongie and K. Schlei, "EdgeSonic: Sonification of Image Features for the Visually Impaired," *Workshop on Interactive Systems and Software*, Japan, 2010.

P. Welinder, S. Branson, S. Belongie and P. Perona, "The Multidimensional Wisdom of Crowds," *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, BC, Dec. 2010.

S. Branson, C. Wah, B. Babenko, F. Schroff, P. Welinder, P. Perona and S. Belongie, "Visual Recognition with Humans in the Loop," *European Conference on Computer Vision (ECCV)*, Heraklion, Crete, Sept., 2010.

T. Yoshida, K. Kitani, S. Belongie and K. Schlei, "EdgeSonic: Sonication of Image Features for the Visually Impaired," *Workshop on Interactive Systems and Software*, Japan, 2010.

P. Dollár, S. Belongie and P. Perona, "The Fastest Pedestrian Detector In The West," *British Machine Vision Conference (BMVC)*, Aberystwyth, UK, 2010.

C. Galleguillos, B. McFee, S. Belongie, G.R.G. Lanckriet, "Multi-Class Object Localization by Combining Local Contextual Interactions," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2010.

K. Wang, E. Rescorla, H. Shacham and S. Belongie, "OpenScan: A Fully Transparent Optical Scan Voting System," *Electronic Voting Technology Workshop/ Workshop on Trustworthy Elections (EVT/WOTE). USENIX/ACCURATE/IAVoSS*, Washington, DC, August, 2010.

T. Winlock, E. Christiansen and S. Belongie, "Toward real-time grocery detection for the visually impaired," *Computer Vision Applications for the Visually Impaired (CVAVI)*, San Francisco, CA, June, 2010.

A. Flores and S. Belongie, "Removing pedestrians from Google Street View images," *IEEE International Workshop on Mobile Vision*, San Francisco, CA, June, 2010.

K. Wang and S. Belongie, "Word Spotting in the Wild," *European Conference on Computer Vision (ECCV)*, Heraklion, Crete, Sept. 2010.

H. Fakourfar and S. Belongie, "Fingerprint Recognition System Performance in the Maritime Environment," *Workshop on Applications of Computer Vision (WACV)*, Snowbird, UT, 2009.

C. Galleguillos, Faymonville P., S. Belongie, “BUBL: An Effective Region Labeling Tool Using a Hexagonal Lattice,” *Workshop on Emergent Issues in Large Amounts of Visual Data*, Kyoto, Japan, 2009.

B. Babenko, S. Branson, S. Belongie, “Similarity Metrics for Categorization: from Monolithic to Category Specfiic,” *International Conference on Computer Vision (ICCV)*, Kyoto, Japan, 2009.

B. Babenko, M. Yang and S. Belongie, “A Family of Online Boosting Algorithms,” *Workshop on Online Learning for Computer Vision*, Kyoto, 2009.

P. Dollár, Z. Tu, P. Perona and S. Belongie, “Integral Channel Features,” *British Machine Vision Conference (BMVC)*, London, England, 2009.

P. Faymonville, K. Wang, J. Miller, S. Belongie, “CAPTCHA-based Image Labeling on the Soylent Grid,” *Human Computation Workshop (HCOMP)*, Paris, France, 2009.

A. Rabinovich and S. Belongie, “Scenes vs. Objects: a Comparative Study of Two Approaches to Context Based Recognition,” *International Workshop on Visual Scene Understanding*, Miami, FL, 2009.

V. Rabaud and S. Belongie, “Linear Embeddings in Non-Rigid Structure From Motion,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Miami, FL, 2009.

B. Babenko, M. Yang and S. Belongie, “Visual Tracking with Online Multiple Instance Learning,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Miami, FL, 2009.

S.K. Venkata, I. Ahn, D. Jeon, A. Gupta, C. Louie, S. Garcia, S. Belongie and M.B. Taylor, “SD-VBS: The San Diego Vision Benchmark Suite,” *International Symposium on Workload Characterization*, 2009.

V. Rabaud and S. Belongie, “Re-Thinking Non-Rigid Structure From Motion,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2008.

C. Galleguillos, A. Rabinovich and S. Belongie, “Object Categorization using Co-Occurrence, Location and Appearance,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2008.

M. Koch, J. Maltz, B. Gangadharan, S. Bose, H. Shukla, A. Bani-Hashemi and S. Belongie, “Automatic Co-registration of Volumetric Datasets Based on Prostate Seed Fiducial Markers,” *International Symposium on Biomedical Imaging (ISBI)*, 2008.

S. Steinbach, V. Rabaud and S. Belongie, “Soylent Grid: it's Made of People!,” *International Workshop on Interactive Computer Vision*, 2007

A. Rabinovich, A. Vedaldi, C. Galleguillos, E. Wiewiora and S. Belongie, “Objects in

Context," *International Conference on Computer Vision (ICCV)*, 2007.

M. Chandraker, S. Agarwal, D. Kriegman and S. Belongie, "Globally Convergent Algorithms for Ane and Metric Upgrades in Stratied Autocalibration," *International Conference on Computer Vision (ICCV)*, 2007. **Marr Prize Honorable Mention**

B. Babenko, P Dollár and S. Belongie, "Task Specic Local Region Matching," *International Conference on Computer Vision (ICCV)*, 2007.

P. Dollár, V. Rabaud and S. Belongie, "Non-Isometric Manifold Learning: Analysis and an Algorithm," *International Conference on Machine Learning (ICML)*, 2007.

M. Merler, C. Galleguillos and S. Belongie, "Recognizing Groceries in situ Using in vitro Training Data," *IEEE Workshop on Semantic Learning Applications of Multimedia*, 2007.

P. Dollár, Z. Tu, H. Tao and S. Belongie, "Feature Mining for Image Classification," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2007.

S. Agarwal, J. Wills, L. Cayton, G. Lanckriet, D. Kriegman and S. Belongie, "Generalized Non-metric Multidimensional Scaling," *International Conference on Articial Intelligence and Statistics (AISTATS)*, 2007.

P Dollár, V. Rabaud and S. Belongie, "Learning to Traverse Image Manifolds," *Advances in Neural Information Processing Systems (NIPS)* 19, 2006.

R. Hewitt and S. Belongie, "Active Learning in Face Recognition: Using Tracking to Build a Face Model," *IEEE Workshop on Vision for Human Computer Interaction*, 2006.

N. Ben-Haim, B. Babenko and S. Belongie, "Improving Web-based Image Search via Content Based Clustering," *International Workshop on Semantic Learning Applications in Multimedia*, 2006.

B. Ochoa and S. Belongie, "Covariance Propagation for Guided Matching," *International Workshop on Statistical Methods in Multi-Image and Video Processing*, 2006.

S. Agarwal, K. Branson and S. Belongie, "Higher Order Learning with Graphs," *International Conference on Machine Learning (ICML)*, 2006.

V. Rabaud and S. Belongie, "Motion Segmentation for Crowded Moving Objects," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2006.

P. Dollár, Z. Tu and S. Belongie, "Learning Edges from Low-level, Mid-level and Context Information," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2006.

A. Rabinovich, T. Lange, J. Buhmann and S. Belongie, "Model Order Selection and Cue Combination for Image Segmentation," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2006.

S.P. Mallick, S. Agarwal, B. Carraghar, C. Potter, S. Belongie, and D. Kriegman. "Structure and view estimation for tomographic reconstruction: A Bayesian approach," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2006.

S. Agarwal, M. Chandraker, F. Kahl, D. Kriegman and S. Belongie, "Practical Global Optimization for Multiview Geometry," *European Conference on Computer Vision (ECCV)*, 2006.

P. Dollár, V. Rabaud, G. Cottrell and S. Belongie, "Behavior Recognition via Sparse Spatio-Temporal Features," *Joint International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance (VS-PETS)*, 2005.

I. Laptev, S. Belongie, P. Perez and J. Wills, "Periodic Motion Detection and Segmentation via Approximate Sequence Alignment," *International Conference on Computer Vision (ICCV)*, 2005.

S. Belongie, K. Branson, P. Dollár, and V. Rabaud, "Monitoring Animal Behavior in the Smart Vivarium," *International Conference on Methods and Techniques in Behavioral Research*, 2005.

S. Kumar, M. Biswas, S. Belongie and T. Nguyen, "Spatio-temporal texture synthesis and image inpainting for video applications," *International Conference on Image Processing (ICIP)*, 2005.

V. Rabaud and S. Belongie, "Big Little Icons," *IEEE Workshop on Computer Vision Applications for the Visually Impaired (CVAVI)*, 2005.

K. Branson and S. Belongie, "Tracking Multiple Mouse Contours (without Too Many Samples)", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2005.

S. Agarwal, J. Lim, L. Zelnik-Manor, P. Perona, D. Kriegman and S. Belongie, "Beyond Pairwise Clustering," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2005.

S. Belongie and J. Wills, "Structure from Periodic Motion," *International Workshop on Spatial Coherence for Visual Motion Analysis*, 2004.

J. Wills and S. Belongie, "A feature based method for determining dense long range correspondences," *European Conference on Computer Vision (ECCV)*, 2004.

S. Agarwal, S. Mallick, D. Kriegman and S. Belongie, "On Refractive Optical Flow," *European Conference on Computer Vision (ECCV)*, 2004.

K. Branson, V. Rabaud and S. Belongie, "Three Brown Mice: See How They Run," *Joint International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance (VS-PETS)*, 2003.

A. Rabinovich, S. Agarwal, C. Laris, J. Price and S. Belongie, "Unsupervised Color Decomposition of Histologically Stained Tissue Samples," *Advances in Neural Information Processing Systems (NIPS)* 16, 2003.

J. Wills, S. Agarwal and S. Belongie, "What Went Where," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2003.

S. Agarwal and S. Belongie, "On the Non-Optimality of Four Color Coding of Image Partitions," *International Conference on Image Processing (ICIP)*, 2002.

G. Donato and S. Belongie, "Approximate Thin Plate Spline Mappings," *European Conference on Computer Vision (ECCV)*, 2002.

S. Belongie, C. Fowlkes, F.R.K. Chung and J. Malik, "Spectral Partitioning with Indefinite Kernels using the Nystrom Extension," *European Conference on Computer Vision (ECCV)*, 2002.

J. Carballido Gamio, S. Belongie and S. Majumdar, "Normalized Cuts for Spinal MRI Segmentation," *International Conference on Computer Assisted Radiology and Surgery*, 2002.

C. Fowlkes, Q. Shan, S. Belongie, and J. Malik, "Extracting Global Structure from Gene Expression Profiles," *Critical Assessment of Microarray Data Analysis*, 2001.

G. Mori, S. Belongie, and J. Malik, "Shape Contexts Enable Efficient Retrieval of Similar Shapes," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2001.

C. Fowlkes, S. Belongie, and J. Malik, "Efficient Spatiotemporal Grouping Using the Nyström Method," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2001.

S. Belongie, J. Malik, and J. Puzicha, "Matching Shapes," *International Conference on Computer Vision (ICCV)*, 2001. **Helmholtz Prize (Test of Time Award) 2015**

S. Belongie, J. Malik, and J. Puzicha, "Shape Context: A new descriptor for shape matching and object recognition," *Advances in Neural Information Processing Systems (NIPS)* 13, 2000.

S. Belongie and J. Malik, "Matching with Shape Contexts," *IEEE Workshop on Content-based Access of Image and Video Libraries*, 2000.

J. Puzicha and S. Belongie, "Model-based Halftoning for Color Image Segmentation," *International Conference on Pattern Recognition (ICPR),* 2000.

J. Malik, S. Belongie, J. Shi and T. Leung, "Textons, Contours and Regions: Cue Combination in Image Segmentation," *International Conference on Computer Vision (ICCV)*, 1999.

J. Malik, J. Shi, S. Belongie, and T. Leung, "Grouping in the Normalized Cut Framework," D.A. Forsyth et al. (Eds.): *Shape, Contour and Grouping in Computer Vision*, Springer Verlag LNCS 1681, pp. 155-164, 1999.

C. Carson, M. Thomas, S. Belongie, J.M. Hellerstein, and J. Malik, "Blobworld: A system for region-based image indexing and retrieval," *International Conference on Visual Information Systems (VISUAL)*, 1999.

J. Shi, S. Belongie, T. Leung and J. Malik, "Image and Video Segmentation: The Normalized Cut Framework," *International Conference on Image Processing (ICIP)*, 1998.

S. Belongie and J. Malik, "Finding Boundaries in Natural Images: A New Method Using Point Descriptors and Area Completion," *European Conference on Computer Vision (ECCV)*, 1998, pp. 751-766, vol.1.

S. Belongie, C. Carson, H. Greenspan, and J. Malik, "Color- and Texture-based Image Segmentation Using the Expectation-Maximization Algorithm and Its Application to Content-Based Image Retrieval," *International Conference on Computer Vision (ICCV)*, 1998, pp. 675-682.

C. Carson, S. Belongie, H. Greenspan and J. Malik, "Region-Based Image Querying," *IEEE Workshop on Content-based Access of Image and Video Libraries*, 1997.

D. Forsyth, J. Malik, M. Fleck, H. Greenspan, T. Leung, S. Belongie, C. Carson, and C. Bregler, "Finding Pictures of Objects in Large Collections of Images," *International Workshop on Object Representation in Computer Vision*, 1996.

J. Malik, D. Forsyth, M. Fleck, H. Greenspan, T. Leung, C. Carson, S. Belongie, and C. Bregler, "Finding Objects in Image Databases by Grouping," *International Conference on Image Processing (ICIP)*, special session on "Images in Digital Libraries," 1996.

H. Greenspan, S. Belongie, P. Perona and R. Goodman, "Rotation Invariant Texture Recognition Using a Steerable Pyramid," *IEEE International Conference on Pattern Recognition (ICPR)*, 1994.

H. Greenspan, S. Belongie, P. Perona, R. Goodman, S. Rakshit and C. H. Anderson, "Overcomplete Steerable Pyramid Filters and Rotation Invariance," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 1994.

Instructional DVD

M. Maschion, V. Rabaud and S. Belongie, *Computer Vision: Fact and Fiction*, 2005.

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Current PhD: Hani Altwaijry, Eric Christiansen, Yin Cui, Arturo Flores, Xun Huang, Tsung-Yi Lin, Mohammad Moghimi, Kevin Musgrave, Omid Poursaeed, Andreas Veit, Michael Wilber.

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Patents

S. Belongie, A. Kalai, C. Liu, O. Shamir and O. Tamuz, "Adaptively learning a similarity model," Patent US 20120296900, 2012.

S. Belongie, A. Kalai, C. Liu, O. Shamir and O. Tamuz, "Adaptive interactive search," Patent US 20120296776, 2012.

V. Bjorn and S. Belongie, "Configurable multi-function touchpad device," Patent WO 2000016244, 2005.

V. Bjorn and S. Belongie, "Fingerprint recognition system," WO 1998048371, 2000.

S. Belongie and V. Bjorn, "Fingerprint detection apparatus with partial fingerprint images," WO 1998048371, 2000.

H. Greenspan and S. Belongie, "DFT encoding of oriented filter responses for rotation invariance and orientation estimation in digitized images," Patent US5956427, 1999.

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