

Lubomir Bourdev

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25+ years of industry experience in computer vision and software engineering. My work made it into Facebook, Photoshop, Acrobat and other products and has been covered by WSJ, MIT Tech Review and others. I am an author of 70+ [issued patents](#) and have 20000+ [citations](#).

Education

Doctor of Philosophy	in Computer Science, U.C. Berkeley.	Advisor: Prof. Jitendra Malik	09/2007 – 05/2011
Master of Science	in Computer Science, Brown University.		09/1994 – 05/1998
Bachelor of Arts	in Computer Science, Brown University.		09/1994 – 05/1998

Industry R&D Experience

[WaveOne, Inc](#) (09/15 - present), Co-Founder and CEO

WaveOne is built on the vision that ML-based codecs will revolutionize the way video is captured, stored, transmitted, represented and analyzed. We have raised investment with top VCs, assembled a team of ML experts and developed state-of-the-art technology for image and video compression. Our technology is published in top ML conferences and we are working with Fortune 500 companies and the US government.

Facebook, [Facebook AI Research](#), (03/12 - 08/15), Research Scientist and Engineering Manager

- Founding member of Facebook AI Research. Responsible for critical early hires. Author of the first FAIR paper.
- Founded and managed the AML Computer Vision team responsible for creating and deploying object and scene recognition technology on every photo and video on Facebook and Instagram. Our engine has been run more than half a trillion times and is key in spam detection, pornographic content filtering, visual search, feed ranking, and other areas.
- Organized the Bay Area Vision Meeting [BAVM 2013](#) which brought together 300+ researchers, professors and students at Facebook to discuss the role of deep learning in computer vision.
- Chair of the Facebook Fellowship program

Adobe Systems, [Advanced Technology Labs](#) Sr. Research Scientist(06/98 – 02/12)

Invented and prototyped new technologies for future versions of the Adobe product line, and for future products.

Author of seven major features shipped in Illustrator, Acrobat, InDesign, and Photoshop Elements.

Author of the second-highest number of patents at Adobe after the creator of Photoshop

- Proposed a novel method for detection of articulated objects using [Poselets](#). This was the leading method for person detection in 2009 and 2010 according to the annual PASCAL competitions.
- Designed and developed the [Face Tagging](#) module in Photoshop Elements 4. Released in 2005, to my knowledge this was the first consumer-level application of face detection and has received numerous positive [reviews](#).
- Lead architect of the engine behind the [People Recognition](#) feature in Photoshop Elements 8.0.
- Lead author of the [Generic Image Library \(GIL\)](#) – the image library in [Boost](#), used by many companies and universities
- Designed and developed [Symbolism](#) - a creative tool in Illustrator 9 using my particle system to simplify drawing of complex natural scenes, such as grass, trees, shading, hair, clouds. It has received outstanding [reviews](#).
- Designed and developed the probabilistic engine in Acrobat forms that suggests default entries in form fields. It can extrapolate appropriate values for fields and forms it has not seen before.
- Developed the [AGM Flattener](#), a module that converts documents containing semi-transparent graphics into opaque documents. It is used for printing across Adobe's vector graphics product line -- Acrobat, Illustrator, InDesign.

Publications

- Oren Rippel, Sanjay Nair, Carissa Lew, Steve Branson, Alexander G Anderson and Lubomir Bourdev, [*Learned Video Compression*](#), International Conference on Computer Vision (ICCV 2019)
- Oren Rippel and Lubomir Bourdev, [*Real-Time Adaptive Image Compression*](#), International Conference in Machine Learning (ICML 2017)
- Chen Sun, Manohar Paluri, Ronan Collobert, Ram Nevatia and Lubomir Bourdev, [*ProNet: Learning to Propose Object-Specific Boxes for Cascaded Neural Networks*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2016)
- Du Tran, Lubomir Bourdev, Rob Fergus, Lorenzo Torresani and Manohar Paluri, [*Deep End2End Voxel2Voxel Prediction*](#), The 3rd Workshop on Deep Learning in Computer Vision 2016 (in CVPR 2016)
- Oren Rippel, Manohar Paluri, Piotr Dollar and Lubomir Bourdev, [*Metric Learning with Density Discrimination*](#) International Conference in Learning Representations (ICLR 2016)
- Kevin Tang, Manohar Paluri, Li Fei-Fei, Rob Fergus and Lubomir Bourdev, [*Improving Image Classification with Location Context*](#), International Conference on Computer Vision (ICCV 2015)
- Du Tran, Lubomir Bourdev, Rob Fergus, Lorenzo Torresani, Manohar Paluri, [*Learning Spatiotemporal Features with 3D Convolutional Networks*](#), International Conference on Computer Vision (ICCV 2015)
- Ning Zhang, Manohar Paluri, Yaniv Taigman, Rob Fergus and Lubomir Bourdev, [*Beyond Frontal Faces: Improving Person Recognition Using Multiple Cues*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2015)
- Yunchao Gong, Marcin Pawlowski, Fei Yang, Louis Brandy, Lubomir Bourdev and Rob Fergus, [*Web Scale Photo Hash Clustering on a Single Machine*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2015)
- Sainbayar Sukhbaatar, Joan Bruna, Manohar Paluri, Lubomir Bourdev and Rob Fergus, [*Training Convolutional Networks with Noisy Labels*](#), ICLR 2015 workshop paper
- Tsung-Yi Lin, Michael Maire, Serge Belongie, Lubomir Bourdev, Ross Girshick, James Hays, Pietro Perona, Deva Ramanan, C. Lawrence Zitnik and Piotr Dollar, [*Microsoft COCO: Common Objects in Context*](#), Arxiv 2015
- Ning Zhang, Manohar Paluri, Marc’Aurelio Ranzato, Trevor Darrell and Lubomir Bourdev, [*PANDA: Pose Aligned Networks for Deep Attribute Modeling*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2014)
- David Bo Chen, Pietro Perona and Lubomir Bourdev, [*Hierarchical Cascade of Classifiers for Efficient Poselet Evaluation*](#), British Machine Vision Conference (BMVC 2014)
- Lubomir Bourdev, Fei Yang and Rob Fergus, [*Deep Poselets for Human Detection*](#), Tech Report 2014
- Georgia Gkioxari, Pablo Arbelaez, Lubomir Bourdev and Jitendra Malik, [*Articulated Pose Estimation using Discriminative Armlet Classifiers*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2013)
- Vuong Le, Jonathan Brandt, Lubomir Bourdev, Zhe Lin and Thomas Huang, [*Interactive Facial Feature Localization*](#), European Conference on Computer Vision (ECCV 2012)
- Pablo Arbeláez, Bharath Hariharan, Chunhui Gu, Saurabh Gupta, Lubomir Bourdev and Jitendra Malik, [*Semantic Segmentation Using Regions and Parts*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2012)
- Fei Yang, Lubomir Bourdev, Eli Shechtman, Jue Wang and Dimitri Metaxas, [*Facial Expression Editing in Video Using a Temporary-Smooth Factorization*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2012)

- Ana Murillo, Iljung Kwak, Lubomir Bourdev, David Kriegman and Serge Belongie, [*Urban Tribes: Analyzing Group Photos from a Social Perspective*](#), Workshop on Socially Intelligent Surveillance and Monitoring (CVPR 2012)
- Fei Yang, Eli Shechtman, Jue Wang, Lubomir Bourdev and Dimitris Metaxas, [*3D-Aware Appearance Optimization for Face Morphing*](#), Graphics Interface (GI 2012)
- Lubomir Bourdev, Subhransu Maji and Jitendra Malik, [*Describing People: Poselet-Based Approach to Attribute Classification*](#), International Conference on Computer Vision (ICCV 2011)
- Bharath Hariharan, Pablo Arbelaez, Lubomir Bourdev, Subhransu Maji and Jitendra Malik, [*Semantic Contours From Inverse Detectors*](#), International Conference on Computer Vision (ICCV 2011)
- Suporn Pongnumkul, Mira Doncheva, Wil Li, Lubomir Bourdev, Shai Avidan, Jue Wang and Michael Cohen, [*Pause-and-play: Automatically Linking Screencast Video Tutorials with Applications*](#), ACM Symposium on User Interface Software and Technology (UIST 2011)
- Fei Yang, Jue Wang, Eli Shechtman, Lubomir Bourdev and Dimitris Metaxas, [*Expression Flow for 3D-Aware Face Component Transfer*](#), ACM Transactions on Graphics (SIGGRAPH 2011)
- Subhransu Maji, Lubomir Bourdev and Jitendra Malik, [*Action Recognition From a Distributed Representation of Pose and Appearance*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2011)
- Thomas Brox, Lubomir Bourdev, Subhransu Maji and Jitendra Malik, [*Object Segmentation by Alignment of Poselet Activations to Image Contours*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2011)
- Lubomir Bourdev, [*Poselets and Their Applications in High-Level Computer Vision*](#), Ph.D. Thesis, University of California at Berkeley, 2011
- Lubomir Bourdev, Subhransu Maji, Thomas Brox and Jitendra Malik, [*Detecting People Using Mutually Consistent Poselet Activations*](#), European Conference on Computer Vision (ECCV 2010)
- Lubomir Bourdev and Jitendra Malik, [*Poselets: Body Part Detectors Trained Using 3D Human Pose Annotations*](#), International Conference on Computer Vision (ICCV 2009)
- Lubomir Bourdev, [*Generic Image Library*](#), Software Developer's Journal, August 2007
- Lubomir Bourdev and Jaakko Järvi, [*Efficient Run-Time Dispatching in Generic Programming with Minimal Code Bloat*](#), Science of Computer Programming, 2010
- Lubomir Bourdev and Jaakko Järvi, [*Efficient Run-Time Dispatching in Generic Programming with Minimal Code Bloat*](#), LCSD Workshop, OOPSLA 2006
- Lubomir Bourdev and Jonathan Brandt, [*Robust Object Detection via Soft Cascade*](#), IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2005)
- Michael Kowalski, Lee Markosian, J.D. Northrup, Lubomir Bourdev, Ronen Barzel, Loring Holden and John Hughes, [*Art-Based Rendering of Fur, Grass, and Trees*](#), ACM Transactions on Graphics (SIGGRAPH 1999) (front cover)
- Lubomir Bourdev, [*Rendering Non-Photorealistic Strokes with Temporal and Arc-Length Coherence*](#), Master's Thesis, Brown University 05/08
- Lee Markosian, Michael Kowalski, Sam Trychin, Lubomir Bourdev, Daniel Goldstein and John Hughes, [*Real-Time Nonphotorealistic Rendering*](#), ACM Transactions on Graphics (SIGGRAPH 1997)

Issued Patents

1. C. Lew, S. Branson, O. Rippel, S. Nair, A. Anderson, L. Bourdev, *Adaptive quantization*, U.S. Patent 10594338
2. K. Tang, L. Bourdev, M. Paluri, R. Fergus, *Systems and methods for image object recognition based on location information and object categories*, U.S. Patent 10572771
3. L. Bourdev, C. Lew, S. Nair, O. Rippel *Autoencoding image residuals for improving upsampled images*, U.S. Patent 10565499
4. O. Rippel, L. Bourdev, *Adaptive compression based on content*, U.S. Patent 10402722
5. L. Bourdev, *Pose-aligned networks for deep attribute modeling*, U.S. Patent 10402632
6. R. Rergus, L. Bourdev, B. Paluri, S. Sukhbaatar, *Unsupervised training sets for content classification*, U.S. Patent 10360498
7. A. Hassan, L. Bourdev, *Systems and methods to determine location of media items*, U.S. Patent 10360255
8. O. Rippel, L. Bourdev, *Enhanced coding efficiency with progressive representation*, U.S. Patent 10332001
9. D. Tran, B. Paluri, L. Bourdev, R. Fergus, S. Chopra, *Systems and methods for determining video feature descriptors based on convolutional neural networks*, U.S. Patent 10198637
10. L. Bourdev, B. Paluri, *Systems and methods for image recognition normalization and calibration*, U.S. Patent 10169686
11. A. Leros, D. Stoop, M. Ryan, L. Bourdev, B. Paluri, *Methods and systems for differentiating synthetic and non-synthetic images*, U.S. Patent 10140545
12. N. Johri, B. Paluri, L. Bourdev, *Systems and methods for image recognition normalization and calibration*, U.S. Patent 9946926
13. D. Tran, B. Paluri, L. Bourdev, R. Fergus, *Systems and methods for determining video feature descriptors based on convolutional neural networks*, U.S. Patent 9858484
14. N. Johri, B. Paluri, L. Bourdev, *Systems and methods for image recognition normalization and calibration*, U.S. Patent 9767357
15. B. Paluri, D. Tran, L. Bourdev, R. Fergus, *Systems and methods for processing content using convolutional neural networks*, U.S. Patent 9754351
16. K. Tang, L. Bourdev, B. Paluri, R. Fergus, *Systems and methods for image object recognition based on location information and object categories*, U.S. Patent 9727803
17. L. Bourdev, N. Zhang, Y. Taigman, R. Fergus, *Systems and methods for identifying users in media content based on poselets and neural networks*, U.S. Patent 9704029
18. A. Leros, D. Stoop, R. Mack, L. Bourdev, B. Paluri, *Methods and Systems for Differentiating Synthetic and Non-synthetic Images*, U.S. Patent 9558422
19. L. Bourdev, N. Zhang, B. Paluri, Y. Taigman, R. Fergus, *Systems and Methods for Identifying Users in Media Content Based on Poselets and Neural Networks*, U.S. Patent 9514390
20. K. Tang, L. Bourdev, B. Paluri, R. Fergus, *Systems and Methods for Image Object Recognition Based on Location Information and Object Categories*, U.S. Patent 9495619
21. L. Bourdev, *Pose-aligned Networks for Deep Attribute Modeling*, U.S. Patent 9400925
22. A. Leros, D. Stoop, R. Mack, L. Bourdev, B. Paluri, *Methods and Systems for Differentiating Synthetic and Non-synthetic Images*, U.S. Patent 9280723
23. J. Brandt, Z. Lin, Vuong Le, L. Bourdev, *Adjusting a Contour by a Shape Modek*, U.S. Patent 9202138
24. J. Brandt, Z. Lin, L. Bourdev, Vuong Le, *Fitting Contours to Features*, U.S. Patent 9158963
25. L. Bourdev, *Reviewing and Editing Word Processing Documents*, U.S. Patent 9092173
26. L. Bourdev, E. Shechtman, J. Wang, and F. Yang, *Methods and Apparatus for Face Fitting and Editing Applications*, U.S. Patent 8923392
27. L. Dontcheva, S. Pongnumkul, W. Li, S. Avidan and L. Bourdev, *Methods and Apparatus for Tutorial Video Enhancement*, U.S. Patent 8909024
28. A. Leros, D. Stoop, R. Mack, L. Bourdev, M. Paluri, *Methods and Systems for Differentiating Synthetic and Non-synthetic Images*, U.S. Patent 8903186
29. J. Wang, E. Shechtman, L. Bourdev, F. Yang, *Methods and Apparatus for Facial Feature Replacement*, U.S. Patent 8818131
30. K. Dale, L. Bourdev, S. Avidan, A. Parenteau, *System and Method for Labeling a Collection of Images*, U.S. Patent 8724908
31. A. Casillas, L. Bourdev, *Indicating a Correspondence Between an Image and an Object*, U.S. Patent 8548211
32. L. Bourdev, *Generation and Usage of Attractiveness Scores*, U.S. Patent 8532347
33. L. Bourdev, J. Xu, *System and Method for using Contextual Features to Improve Face Recognition in Digital Images*, U.S. Patent 8503739

34. J. Wang, E. Shechtman, L. Bourdev, F. Yang, *Methods and Apparatus for Facial Feature Replacement*, U.S. Patent 8457442
35. L. Bourdev, *Reviewing and Editing Word Processing Documents*, U.S. Patent 8418051
36. L. Bourdev, A. Parenteau, *Efficient and Scalable Face Recognition in Photo Albums*, U.S. Patent 8379939
37. L. Bourdev, *Reviewing and Editing Word Processing Documents*, U.S. Patent 8296647
38. C. Schendel, L. Bourdev, *Designating a Tag Icon*, U.S. Patent 8259995
39. L. Bourdev, *Facilitating Computer-Assisted Tagging of Object Instances in Digital Images*, U.S. Patent 8244069
40. L. Bourdev, *Autocompleting Form Fields Based on Previously Entered Values*, U.S. Patent 8234561
41. L. Bourdev, *Detecting Objects within an Image by Incrementally Evaluating Subwindows of the Image in Parallel*, U.S. Patent 8077920
42. L. Bourdev, *Generation and Usage of Attractiveness Scores*, U.S. Patent 8041076
43. A. Casillas, L. Bourdev, *Indicating a Correspondence Between an Image and an Object*, U.S. Patent 7978936
44. L. Bourdev, *Reviewing and Editing Word Processing Documents*, U.S. Patent 7966566
45. L. Bourdev, *Facilitating Computer-Assisted Tagging of Object Instances in Digital Images*, U.S. Patent 7889946
46. L. Bourdev, *Previewing the Effects of Flattening Transparency*, U.S. Patent 7827485
47. L. Bourdev, S. Schiller, M. Newell, *Processing Illustration Artwork*, U.S. Patent 7825941
48. L. Bourdev, *Method and System to Monitor Installation of a Software Program*, U.S. Patent 7818741
49. L. Bourdev, *Method for Displaying Extracted Faces from Images in Normalized Form*, U.S. Patent 7813526
50. L. Bourdev, *Tagging Detected Objects*, U.S. Patent 7813557
51. L. Bourdev, J. Brandt, *Image Splitting to Use Multiple Execution Channels of a Graphics Processor to Perform an Operation on Single-Channel Input*, U.S. Patent 7768516
52. L. Bourdev, *Detecting Objects within an Image by Incrementally Evaluating Subwindows of the Image in Parallel*, U.S. Patent 7738680
53. L. Bourdev, *Incremental Batch-Mode Editing of Digital Media Objects*, U.S. Patent 7730043
54. L. Bourdev, C. Shendel, J. Heileson, *Searching Images with Extracted Objects*, U.S. Patent 7716157
55. A. Casillas, L. Bourdev, *Exporting Extracted Faces*, U.S. Patent 7706577
56. L. Bourdev, *Indicating a Tag with Visual Data*, U.S. Patent 7694885
57. A. Parenteau, L. Bourdev, *Selectively Transforming Overlapping Illustration Artwork*, U.S. Patent 7692652
58. L. Bourdev, *Displaying Detected Objects to Indicate Grouping*, U.S. Patent 7636450
59. L. Bourdev, J. Brandt, *Detecting Objects in an Image Using a Soft Cascade*, U.S. Patent 7634142
60. L. Bourdev, *Method and Apparatus for Calibrating Sampling Operations for an Object Detection Process*, U.S. Patent 7616780
61. L. Bourdev, *Facilitating Computer-Assisted Tagging of Object Instances in Digital Images*, U.S. Patent 7587101
62. L. Bourdev, G. Wilensky, *Detection of Objects in an Image using Color Analysis*, U.S. Patent 7580563
63. P. Asente, T. Pettit, L. Bourdev, M. Schuster, *Assigning Region Attributes in a Drawing*, U.S. Patent 7502028
64. L. Bourdev, S. Schiller, M. Newell, *Processing Illustration Artwork*, U.S. Patent 7495675
65. L. Bourdev, *Method and Apparatus for Calibrating Sampling Operations for an Object Detection Process*, U.S. Patent 7440587
66. L. Bourdev, *Autocompleting Form Fields Based on Previously Entered Values*, U.S. Patent 7343551
67. L. Bourdev, M. Newell, *Creating and Manipulating Related Vector Objects in an Image*, U.S. Patent 7339597
68. A. Parenteau, L. Bourdev, *Selectively Transforming Overlapping Illustration Artwork* U.S. Patent 7262782
69. L. Bourdev, S. Schiller, *Processing Complex Regions of Illustration Artwork*, U.S. Patent 7256798
70. L. Bourdev, *Previewing the Effects of Flattening Transparency*, U.S. Patent 7181687
71. L. Bourdev, M. Newell, *Operations on Related Set of Vector Objects*, U.S. Patent 7123269
72. P. Louveaux, L. Bourdev, *Hierarchical 2D Compositing with Blending Mode and Opacity Controls at All Levels*, U.S. Patent 7102651
73. L. Bourdev, S. Schiller, *Processing Complex Regions of Illustration Artwork*, U.S. Patent 6894704
74. L. Bourdev, S. Schiller, *Flattening Images with Abstracted Objects*, U.S. Patent 6859553
75. P. Louveaux, L. Bourdev, *Hierarchical 2D Compositing with Blending Mode and Opacity Controls at All Levels*, U.S. Patent 6847380
76. L. Bourdev, S. Schiller, M. Newell, *Processing Illustration Artwork*, U.S. Patent 6720977
77. L. Bourdev, *Processing Opaque Pieces of Illustration Artwork*, U.S. Patent 6515675

Teaching Experience

- Graduate Student Instructor, U.C. Berkeley, CS188, [Artificial Intelligence](#), [Prof. Pieter Abbeel](#) (01/11 – 05/11)
- Head Teaching Assistant, Brown University CS016 [Algorithms and Data Structures](#), [Prof. R. Tamassia](#) (01/97 - 05/97)
- Teaching Assistant, Brown University CS123 [Intro to Computer Graphics](#), [Prof. Andries van Dam](#) (09/96 - 12/96)
- Teaching Assistant, Brown University CS016 [Algorithms and Data Structures](#), [Prof. Roberto Tamassia](#) (01/96 - 05/96)
- Teaching Assistant, Brown University CS002 [Concepts & Challenges of Comp. Science](#), [Prof. P Wegner](#) (01/95 - 05/95)
- Tutor in Computer Science and Mathematics, Brown University (09/94 – 12/94)

Invited Talks (incomplete list)

- *Using Context for Object Recognition at Facebook*, [Imagenet Workshop ECCV14](#), Zurich, Switzerland, 09/14
- *Do Mid-Level Parts Still Matter in the Age of CNNs?* [Perceptual Organization POCV2014](#), Columbus, OH 06/14
- *Scene Understanding at Facebook*, [SUNw Workshop](#), CVPR 2012, Providence, RI 06/13
- *Analyzing Facebook Photos*, [VSM2012](#), Firenze, Italy 10/12
- *Large-Scale Face Recognition: Analyzing Facebook Photos*, [BAVM 2012](#), Stanford, CA 09/12
- *Image Understanding with Poselets*, NEC Labs ([Dr. Kai Yu](#)), Cupertino, CA 07/11
- *Poselets and Their Applications in High-Level Computer Vision*, UCSD ([Prof. Serge Belongie](#)), San Diego, CA 05/11
- *Poselets and Their Applications in High-Level Computer Vision*, Caltech ([Prof. Pietro Perona](#)), Pasadena, CA 05/11
- [Poselets: A distributed representation for visual recognition](#), [Vision Sciences Society](#), Naples, Florida 05/11
- *From PostScript to Face Detectors: How Computer Vision is Transforming Adobe*, [Special ECCV10 Session on Vision and Industry](#), Crete, Greece 09/10
- [Using Poselets for Detection and Segmentation](#), [The PASCAL Visual Object Classes Challenge Workshop](#) Kyoto, Japan 10/09
- *Generic Image Library*, [CVPR 2010 Tutorial on Open Source](#), San Francisco, CA 06/10
- [Generic Image Library](#), Parasol Lab, Texas A&M University ([Prof. Bjarne Stroustrup](#)), College Station, TX 03/06
- [Generic Image Library](#), Open Systems Lab, Indiana University ([Prof. Andrew Lumsdaine](#)), Bloomington, IN 01/06

Projects / Code / Datasets

- [Microsoft COCO Dataset](#). A large-scale image recognition and segmentation dataset.
- [Generic Image Library](#) (Boost.GIL). An open-source C++ library. Abstracts image representation from algorithms and allows us to write an algorithm once and have it work for any image without performance loss. Used by several Adobe products and by other companies and universities. There are many [GIL extensions](#) developed by the open-source community. I prepared a video tutorial [here](#).
- [Poselets](#). A Matlab library for person and object recognition using our method developed at UC Berkeley.
- [ClusterLib](#). A Matlab library for scheduling and managing Matlab jobs on a cluster of computers.
- [H3D](#) (Humans in 3D) Dataset. A dataset of 1200+ people annotated with joints, keypoints, 3D skeleton and part labels.
- [Human Annotation Tool](#). A Java tool for annotating images of people or objects. Infers the 3D pose in real time.
- [Attributes of People Dataset](#). A dataset of 8000+ people annotated with nine attributes – gender, hair style, clothes, etc.

Interns Mentored / Co-mentored

- [Oren Rippel](#), MIT, 2015
- [Chen Sun](#), USC, 2015
- [Mohammad Rastegari](#), University of Maryland, 2015
- [Kevin Tang](#), Stanford University, 2014
- [Du Tran](#), Dartmouth University, 2014, 2015
- [Emily Denton](#), NYU, 2014
- [Sainbayar Sukhbaatar](#), NYU, 2014
- [Ning Zhang](#), UC Berkeley, 2013, 2014
- [David Bo Chen](#), Caltech, 2012
- [Manohar Paluri](#), Georgia Tech, 2012
- [Chunhui Zhu](#), U. Wisconsin-Madison, 2012
- [Kevin Dale](#), Harvard University, 2010, 2011
- [Fei Yang](#), Rutgers University, 2010, 2011
- [Vuong Le](#), UIUC, 2011
- [Joseph Lim](#), MIT, 2010
- [Suporn Pongnumkul](#), University of Washington, 2010
- [Ali Farhadi](#), UIUC, 2009
- [Jiang Xu](#), Northwestern University, 2009
- [Rob Arnold](#), CMU, 2004, 2005

Awards, Affiliations, Professional Activities

- Area chair for [CVPR 2016](#), [CVPR 2020](#), [ECCV 2020](#)
- Organizer of the Bay Area Vision Meeting ([BAVM 2013](#))
- Co-organizer of [ICCV13 Tutorial on Part-Based Models for Recognition](#)
- Reviewer of conferences/journals in vision and graphics.
- PC Member of [APSI2012](#), [SUNW2012](#), [BigVision2015](#)
- One of two Adobe employees accepted into the University Sabbatical program, which allowed me to pursue a Ph.D. while employed (completed in four years).
- The only student from the Computer Science department in 1998 accepted to the Brown University Combined Program, which allowed me to complete both Bachelor's and Master's degrees in a total of four years.
- Undergraduate Teaching and Research Assistantship, Brown University, 1995.
- National Competition of Computational Linguistics in Bulgaria, Second place, 1994.
- National Competition of Computational Linguistics in Bulgaria, First place, 1992.
- Member of Sigma Xi and Mensa.