Curriculum Vitae—Daphna Weinshall

School of Computer Science and Engineering
Hebrew University of Jerusalem
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Citizenship: Israel & US

Research Interests

- Computer vision and visual perception
- Machine and human learning
- Affective computing of mental state

Education

B.Sc. 1979–1982. Math. & Computer Science, **Tel-Aviv University**. Summa cum laude.

M.Sc. 1983–1985. Department of Statistics, **Tel-Aviv University**. Summa cum laude. Advisor: Prof. Ilan Eshel. **Dissertation:** "A Solution to the prisoner's dilemma in a series of stochastic games with possible application to the evolution of social behavior".

Ph.D. 1985–1986. Department of Statistics, **Tel-Aviv University.** Advisor: Prof. Ilan Eshel. **Dissertation:** "The Evolution of Sexual Reproduction - a Mathematical Model".

Professional Affiliations

- 1987 – 1991. **Postdoctoral Fellow**, Center for Biological Information Processing (CBIP), **Massachusetts Institute of Technology**. Host: Prof. Tomaso Poggio, department of Brain and Cognitive Sciences.
- 1991–1992. **Visiting Scientist**, IBM T.J. Watson Research Center, Yorktown Heights, New-York, USA.
- 1993–1997. **Senior Lecturer**, School of Computer Science and Engineering, Hebrew University, Jerusalem.
- 1996–1997, Sabbatical. **Visiting Professor**, Ctr. for Neural Sciences and Courant Institute, New-York University, New-York, USA.
- 1996–1998, Sabbatical. **Visiting Scientist**, NEC Research Institute, Princeton, NJ, USA.
- 1997 – 2004. **Associate Professor**, School of Computer Science and Engineering, Hebrew University, Jerusalem.
- 2001–2002, Sabbatical. **Visiting Scientist**, Philips Research, Briarcliff NY, New-York, USA.
- 2000 – 2012. Member of the interdisciplinary Center for Neural Computation at the Hebrew University.

- 2007–2008, Sabbatical. **Massachusetts Institute of Technology**. Host: Prof. Tomaso Poggio.
- 2004 – present. **Full Professor**, School of Computer Science and Engineering, Hebrew University, Jerusalem.

International Editorial Boards and Commissions of Trust

- **Editorial Board:** *IEEE Trans. on Pattern Analysis and Machine Intelligence* (2008 – 2012), *Computer Vision and Image Understanding (CVIU)* (2002 – 2006), *Machine Vision and Applications* (1995-2002).
- **Conference Program Board (Area Chair):** IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2004, 2007, 2009, 2011, 2014, 2017, 2020; Conference on Advances in Neural Information Processing Systems (NIPS), 2004, 2005; European Conference on Computer Vision (ECCV), 1996, 1998, 2000, 2006, 2010, 2018.
- **Commissions of Trust:** ERC Advance Grants evaluation panel chair 2014, 2016, 2018; ERC Consolidator Grants evaluation panel member 2013. BSF-NSF in Computational Neuroscience program, evaluation panel member 2014. Inria Theme *Interaction and Visualization*, evaluation panel member 2014.

Student supervision

- **PhD Students:** 11 graudated, 2 currently active.
- **MSc Students:** 20 graudated, 6 currently active.

Issued patents

- Daphna Weinshall, Mi-Suen Lee. #6993179 Strapdown system for three-dimensional reconstruction. Issued 31/1/2006.
- Padmananbhan Anandan, Michal Irani, Daphna Weinshall. #6198852 View synthesis from plural images using a trifocal tensor data structure in a multi-view parallax geometry. Issued: 6/3/2001.
- Mi-Suen Lee, Tomas Brodsky, Daphna Weinshall, Miroslav Trajkovic. #6965379 N-view synthesis from monocular video of certain broadcast and stored mass media content. Issued 15/11/2005.
- Scott Kirkpatrick, Daphna Weinshall. #7174459 Imprinting an identification certificate. Issued 6/2/2007.

Publications

Peer-Reviewed Journal Papers

[A1] **D. Weinshall**, Why is a two environment system not rich enough to explain the evolution of sex?. *Am. Nat.* 128(5):736-750, 1986.

[A2] I. Eshel and **D. Weinshall**, Sexual reproduction and viability of future offspring. *Am. Nat.* 130(5):775-787, 1987.

[A3] **D. Weinshall** and I. Eshel, On the evolution of an optimal rate of sexual reproduction. *Am. Nat.* 130(5):758-774, 1987.

[A4] I. Eshel and **D. Weinshall**, Cooperation in a repeated game with random payment function. *J. Appl. Prob.* **25**:478-491, 1988.

[A5] E. Gamble, D. Geiger, T. Poggio and **D. Weinshall**, Integration of vision modules and labeling of surface discontinuities. *IEEE Trans. on Systems, Man and Cybernetics* 19(6):576–1581, 1989.

[A6] **D. Weinshall**, Perception of multiple transparent planes in stereo vision. *Nature* 341(2):737–739, 1989.

[A7] **D. Weinshall**, Qualitative depth from stereo, with applications. *Computer Vision, Graphics and Image Processing* 49:222-241, 1990.

[A8] S. Edelman and **D. Weinshall**, A self-organizing multiple-view representation of 3D objects. *Biological Cybernetics* 64:209-219, 1991.

[A9] **D. Weinshall**, Seeing "ghost" planes in stereo vision. *Vision Research* 31(10):1731–1748, 1991.

[A10] **D. Weinshall**, Direct computation of qualitative 3D shape and motion invariants. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 13(12):1236–1240, 1991.

[A11] **D. Weinshall**, Shortcuts in shape classification from two images. *Computer Vision, Graphics and Image Processing* 56(1):57–68, 1992.

[A12] **D. Weinshall**, Model-based invariants for $3D$ vision. *International Journal of Computer Vision* 10(1):27–42, 1993.

[A13] **D. Weinshall**, The computation of multiple matching in doubly ambiguous stereograms with transparent planes. *Spatial Vision* 7(2):183–198, 1993.

[A14] **D. Weinshall**, Local shape approximation from shading. *Journal of Mathematical Imaging and Vision* 4(2):119–138, April 1994.

[A15] **D. Weinshall** and C. Tomasi, Linear and Incremental Acquisition of Invariant Shape Models from Image Sequences. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 17(5):512–517, May 1995.

[A16] M. Werman and **D. Weinshall**, Similarity and Affine Distance Between Point Sets. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 17(8):810-814, August 1995.

[A17] **D. Weinshall**, M. Werman and N. Tishby, Stability and Likelihood of Views of Three Dimensional Objects. *Computing Suppl.* 11:237-256, 1996.

[A18] R. Basri and **D. Weinshall**, Distance Metric between 3D Models and 2D Images for Recognition and Classification. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 18(4):465-470, 1996.

[A19] **D. Weinshall** and M. Werman, On View Likelihood and Stability. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 19(2):97–108, February, 1997.

[A20] H. Zabrodsky and **D. Weinshall**, Three Dimensional Symmetry from Two Dimensional Data. *Computer Vision and Image Understanding* 67(1):48-57, 1997.

[A21] S. Carlsson and **D. Weinshall**, Dual Computation of Projective Shape and Camera Positions from Multiple Images. *International Journal of Computer Vision* 27(3):227-241, 1998.

[A22] **D. Weinshall** and M. Werman, Minimal decomposition of model-based invariants. *Journal of Mathematical Imaging and Vision* 10(1):77-87, 1999.

[A23] G. Halevy and **D. Weinshall**, Motion of Disturbances: Detection and Tracking of Multibody non rigid Motion. *Machine Vision and Applications* 11(3):122-137, 1999.

[A24] Y. Gdalyahu and **D. Weinshall**, Flexible Syntactic Matching of Curves and its Application to Automatic Hierarchical Classification of Silhouettes. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 21(12):1312–1328, December 1999.

[A25] Z. Liu and **D. Weinshall**, Mechanisms of Generalization in Perceptual Learning. *Vision esearch* 40(1):97-109, 2000.

[A26] D. W. Jacobs, **D. Weinshall** and Y. Gdalyahu, Classification with Non-Metric Distances: Image Retrieval and Class Representation. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 22(6):583-600, June 2000.

[A27] Y. Gdalyahu, **D. Weinshall** and M. Werman, Self organization in vision: stochastic clustering for image segmentation, perceptual grouping and image database organization. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 23(10):1053-1074, Oct 2001.

[A28] A. Zomet, D. Feldman, S. Peleg and **D. Weinshall**, Mosaicing New Views: The Crossed-Slits Projection. *IEEE Trans. on Pattern Analysis and Machine Intelligence* 25(6):741-754, June 2003.

[A29] A. Bar-Hillel, T. Hertz, N. Shental and **D. Weinshall**, Learning a Mahalanobis Metric from equivalence constraints. *Journal of Machine Learning Research (JMLR)* 6(Jun): 937–965, 2005.

[A30] A. Sorkin, **D. Weinshall**, I. Modai and A. Peled, Improving the Accuracy of the Diagnosis of Schizophrenia by Means of Virtual Reality. *American Journal of Psychiatry*, 163(3):512-520, 2006.

[A31] A. Bar-Hillel and **D. Weinshall**, Efficient Learning of Relational Object Class Models. *Int J Comput Vis*, 77: 175–198, 2008.

[A32] D. Feldman and **D. Weinshall**, Motion Segmentation and Depth Ordering Using an Occlusion Detector. *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 30(7):1171-1185, July 2008.

[A33] R. Hammer, A. Bar-Hillel, T. Hertz, **D. Weinshall** and S. Hochstein, Comparison Processes in Category Learning: From Theory to Behavior. *Brain Research*, 1225:102-118, 2008.

[A34] R. Hammer, T. Hertz, S. Hochstein and **D. Weinshall**, Category Learning from Equivalence Constraints. *Cognitive Processing*, 10(3):211-232, 2009.

[A35] R. Hammer, G. Diesendruck, **D. Weinshall** and S. Hochstein, The development of category learning strategies: What makes the difference? *Cognition*, 112(1):105-119, 2009.

[A36] R. Hammer, A. Brechmann, F. W. Ohl, **D. Weinshall** and S. Hochstein, Differential category learning processes: The neural basis of comparison-based learning and induction. *Neuroimage*, 52, 699-709, 2010.

[A37] Uri Shalit, **Daphna Weinshall**, and Gal Chechik. Online Learning in the Manifold of Low-Rank Matrices. *Journal of Machine Learning Research*, 13:429-458, Feb 2012.

[A38] **D. Weinshall**, A. Zweig, H. Hermansky, S. Kombrink, F. W. Ohl, J. Anemüller, J-H. Bach, L. Van Gool, F. Nater, T. Pajdla, M. Havlena and M. Pavel, Beyond Novelty Detection: Incongruent Events, when General and Specific Classifiers Disagree. *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 34(10):1886-1901, Oct 2012.

[A39] Y. S. Resheff, S. Rotics, R. Nathan and **D. Weinshall**, Topic modeling of behavioral modes using sensor data. *International Journal of Data Science and Analytics*, 2016.

[A40] Haim Dubossarsky, **Daphna Weinshall** and Eitan Grossman, Verbs Change more than Nouns: a Bottom-up Computational Approach to Semantic Change. *LINGUE E LINGUAGGIO XV.1* (2016) 5-25.

[A41] Gal Katzhendler and **Daphna Weinshall**, Blurred Images Lead to Bad Local Minima. arXiv:1905.10854, June 2019. Potential upside of high initial visual acuity? *Proceedings of the National Academy of Sciences*, 116:38, ID 2019-06400RR, www.pnas.org/cgi/doi/10.1073/pnas.190640011 August 2019.

[A42] **D. Weinshall** and Dan Amir, Theory of Curriculum Learning, with Convex Loss Functions. *Journal of Machine Learning Research (JMLR)*, submitted.

Peer-Reviewed Conference papers (full papers)

[B1] **D. Weinshall**, Qualitative depth from vertical and horizontal binocular disparities, in agreement with psychophysical evidence. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 159–164, Ann Arbor, June 1988.

[B2] **D. Weinshall**, Application of qualitative depth and shape from stereo. *Proceedings: IEEE second International Conference of Computer Vision (ICCV)* 144–148, Tarpon Springs, December 1988.

[B3] **D. Weinshall**, S. Edelman and H. Bülthoff, A self-organizing multiple-view representation of 3D objects. In *Advances in Neural Information Processing Systems (NIPS) 2* 274–281, Morgan Kaufmann Publishers, San-Mateo, CA, 1990.

[B4] **D. Weinshall**, Shortcuts in the computation of qualitative 3D shape and motion invariants. *AAAI-90 workshop on qualitative vision* 31–35, Boston, July 1990.

[B5] **D. Weinshall**, Direct computation of qualitative 3D shape and motion invariants. *Proceedings: IEEE third International Conference of Computer Vision (ICCV)* 230-237, Osaka, December 1990.

[B6] **D. Weinshall**, Qualitative structure from motion. In *Advances in Neural Information Processing Systems (NIPS) 3*, 356–362, Morgan Kaufmann Pub., San-Mateo CA, 1991.

[B7] **D. Weinshall**, Local shape approximation from shading. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 716–718, IL, June 1992.

[B8] **D. Weinshall** and C. Tomasi Linear and incremental acquisition of invariant shape models from image sequences. *Proceedings: IEEE fourth International Conference of Computer Vision (ICCV)* 675-682, Berlin, May 1993.

[B9] R. Mohan, **D. Weinshall** and R. R. Sarukkai, 3D object recognition by indexing structural invariants from multiple views. *Proceedings: IEEE fourth International Conference of Computer Vision (ICCV)* 264-268, Berlin, May 1993.

[B10] **D. Weinshall**, Model-based invariants for $3D$ vision. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 695–696, NY, June 1993.

[B11] **D. Weinshall** and R. Basri, Distance Metric between 3D Models and 2D Images for Recognition and Classification. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 220–225, NY, June 1993.

[B12] **D. Weinshall**, M. Werman and N. Tishby, Stability and Likelihood of Views of Three Dimensional Objects. *Proceedings: Third European Conference of Computer Vision (ECCV)* 24–35, Stockholm, May 1994.

[B13] H. Zabrodsky and **D. Weinshall**, Three Dimensional Symmetry from Two Dimensional Data. *Proceedings: Third European Conference of Computer Vision (ECCV)* 403–410, Stockholm, May 1994.

[B14] B. Boufama, **D. Weinshall** and M. Werman Shape from motion algorithms: a comparative analysis of scaled orthography and perspective. *Proceedings: Third European Conference of Computer Vision (ECCV)* 199–204, Stockholm, May 1994.

[B15] M. Werman and **D. Weinshall**, Similarity and Affine Distance Between Point Sets. *Proceedings: International Conference of Pattern Recognition (ICPR)* 723–725, Jerusalem, October 1994.

[B16] **D. Weinshall**, Michael Werman and Amnon Shashua, Shape Tensors for Efficient and Learnable Indexing. *Proceedings: IEEE Workshop on Representation of Visual Scenes* Boston, USA, 1995.

[B17] **D. Weinshall** and M. Werman, Disambiguation techniques for recognition in large databases and for under-constrained reconstruction. *Proceedings: IEEE International Symposium on Computer Vision (ICCV)* 425–430, Coral Gables, USA, 1995.

[B18] M. Werman and **D. Weinshall**, Complexity of Indexing: Efficient and Learnable Large Database Indexing. *Proceedings: Fourth European Conference of Computer Vision (ECCV)* I:660–670, Cambridge, April 1996.

[B19] **D. Weinshall**, M. Werman and Amnon Shashua, Shape Descriptors: Bilinear, Trilinear and Quadrilinear Relations for Multi-Point Geometry. *Proceedings: Fourth European Conference of Computer Vision (ECCV)* II:217-227, Cambridge, April 1996.

[B20] Y. Gdalyahu and **D. Weinshall**, Measures for Silhouettes Resemblance and The Most Representative Silhouette of a Curved Object. *Proceedings: Fourth European Conference of Computer Vision (ECCV)* II: 363–375, Cambridge, April 1996.

[B21] G. Halevy and **D. Weinshall**, Motion of Disturbances: Detection and Tracking of Multibody non rigid Motion. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 897–902, San-Juan, June 1997.

[B22] D. Jacobs, **D. Weinshall** and Y. Gdalyahu, Condensing Image Databases when Retrieval is based on Non-Metric Distances. *Proceedings: IEEE sixth International Conference of Computer Vision (ICCV)* 596–601, Bombay, January 1998.

[B23] M. Irani, P. Anandan and **D. Weinshall**. From Reference Frames to Reference Planes: A New Framework for 3D Scene Analysis. *Proceedings: Fifth European Conference of Computer Vision (ECCV)* II:829–845, Freiburg, June 1998.

[B24] Y. Gdalyahu and **D. Weinshall**, Flexible Syntactic Matching of Curves. *Proceedings: Fifth European Conference of Computer Vision (ECCV)* II:123–139 Freiburg, June 1998.

[B25] **D. Weinshall**, P. Anandan and M. Irani, A Stratified Approach to 3D Reconstruction from Uncalibrated Images, with Partial Scene Calibration. *Proceedings: Workshop on 3D Structure from Multiple Images of Large Scale Environments (SMILE '98)* LCNS 1506, 208-223, Springer-Verlag 1998.

[B26] Y. Gdalyahu and **D. Weinshall**, Automatic Hierarchical Classification of Silhouettes Images of 3D Objects. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 787–793, Santa-Barbara, June 1998.

[B27] Z. Liu and **D. Weinshall**, Mechanisms of Generalization in Perceptual Learning. In *Advances in Neural Information Processing Systems (NIPS)* 45–51, MIT Press, 1998.

[B28] Y. Gdalyahu, **D. Weinshall** and M. Werman, A Randomized Algorithm for Pairwise Clustering. In *Advances in Neural Information Processing Systems (NIPS)* 424–430, MIT Press, 1998.

[B29] **D. Weinshall**, D. W. Jacobs and Y. Gdalyahu, Classification in Non-Metric Spaces. In *Advances in Neural Information Processing Systems (NIPS)* 838–844, MIT Press, 1998.

[B30] E. Domany, M. Blatt, Y. Gdalyahu and **D. Weinshall**, Superparamagnetic clustering of data: application to computer vision. *Proceedings: Conference on Computational Physics* Granada, 1998; Comp. Phys. Comm. 121-122, 5 (1999).

[B31] Y. Gdalyahu, **D. Weinshall** and M. Werman, Stochastic Image Segmentation by Typical Cuts. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* II:596–601, Fort Collins, June 1999.

[B32] Y. Gdalyahu, N. Shental and **D. Weinshall**, Perceptual Grouping and Segmentation by Stochastic Clustering. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* I:367–374, South Carolina, June 2000.

[B33] M.S. Lee, **D. Weinshall**, E. Cohen-Solal, A. Colmenarez and D. Lyons, A Computer Vision System for On-Screen Item Selection by Finger Pointing. *Proceedings: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* I:1026-1033, Hawaii, Dec 2001.

[B34] **D. Weinshall**, M.S. Lee, T. Brodsky, M. Trajkovic and D. Feldman, New view generation with a bi-centric camera. *Proceedings: seventh European Conference of Computer Vision (ECCV)* Copenhagen, May 2002.

[B35] N. Shental, T. Hertz, **D. Weinshall** and M. Pavel, Adjustment Learning and Relevant Component Analysis. *Proceedings: seventh European Conference of Computer Vision (ECCV)* Copenhagen, May 2002.

[B36] D. Feldman, A. Zomet, S. Peleg and **D. Weinshall**, New video generation with the Crossed-Slits Camera. *Proceedings: IEEE Workshop on Motion and Video Computing* Orlando FL, Dec 2002.

[B37] T. Hertz, N. Shental, A. Bar-Hillel and **D. Weinshall**, Enhancing Image and Video Retrieval: Learning via Equivalence Constraints. *Proceedings: IEEE Conf. on Computer Vision & Pattern Recognition (CVPR)*, Madison WI, June 2003.

[B38] A. Bar-Hillel, T. Hertz, N. Shental and **D. Weinshall**, Learning Distance Functions using Equivalence Relations. *Proceedings: 20th International Conference on Machine Learning (ICML) 2003*, Washington DC, August 2003.

[B39] A. Bar-Hillel and **D. Weinshall**, Learning with Equivalence Constraints and the Relation to Multiclass Learning. *Proceedings: 16th Conference on Learning Theory (COLT) 2003* Washington DC, August 2003.

[B40] N. Shental, A. Bar-Hillel, T. Hertz and **D. Weinshall**, Computing Gaussian Mixture Models with EM using Side-Information. *Proceedings: workshop* The Continuum from labeled to unlabeled data in machine learning and data mining ICML 2003.

[B41] D. Feldman, T. Pajdla and **D. Weinshall**, On the Epipolar Geometry of the Crossed-Slits Projection. *Proceedings: IEEE 9th International Conference of Computer Vision (ICCV)* Nice, France, Oct 2003.

[B42] N. Shental, A. Bar-Hillel, T. Hertz and **D. Weinshall**, Computing Gaussian Mixture Models with EM using Equivalence Constraints. In *Advances in Neural Information Processing Systems (NIPS)* MIT Press, Dec 2003.

[B43] **D. Weinshall** and S. Kirkpatrick, Passwords you'll never forget, but can't recall. *Proceedings: ACM Conf. on Computer Human Interfaces (CHI)*, Viena Austria, April 2004.

[B44] T. Hertz, A. Bar-Hillel and **D. Weinshall**, Learning Distance Functions for Image Retrieval. *Proceedings: IEEE Conf. on Computer Vision & Pattern Recognition (CVPR)*, Washington DC, June 2004.

[B45] T. Hertz, A. Bar-Hillel and **D. Weinshall**, Boosting Margin Based Distance Functions for Clustering. *Proceedings: 21st International Conference on Machine Learning (ICML)*, Banff Canada, Aug 2004.

[B46] A. Sorkin, A. Peled and **D. Weinshall**, Virtual Reality Testing of Multi-Modal Integration in Schizophrenic Patients. *Proceedings: 13th Annual Medicine Meets Virtual Reality Conference (MMVR)*, Long Beach CA, Jan 2005.

[B47] A. Bar-Hillel, T. Hertz and **D. Weinshall**, Object class recognition by boosting a part based model. *Proceedings: IEEE Conf. on Computer Vision & Pattern Recognition (CVPR)*, San-Diego CA, June 2005.

[B48] R. Hammer, T. Hertz, S. Hochstein and **D. Weinshall**, Category Learning from Equivalence Constraints. *Proceedings: XXVII Annual Conference of the Cognitive Science Society (CogSci2005)*, Piedmont Italy, July 2005.

[B49] D. Feldman and **D. Weinshall**, Realtime IBR with Omnidirectional Crossed-Slits Projection. *Proceedings: IEEE 10th International Conference of Computer Vision (ICCV)*, Beijing China, Oct 2005.

[B50] A. Bar-Hillel, T. Hertz and **D. Weinshall**, Efficient Learning of Relational Object Class Models. *Proceedings: IEEE 10th International Conference of Computer Vision (ICCV)*, Beijing China, Oct 2005.

[B51] I. Weiner, T. Hertz, I. Nelken and **D. Weinshall**, Analyzing Auditory Neurons by Learning Distance Functions. In *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Dec 2005.

[B52] **D. Weinshall**, Cognitive Authentication Schemes Safe Against Spyware. *Proceedings: IEEE Symposium on Security and Privacy (S&P)*, Berkeley, May 2006.

[B53] D. Feldman and **D. Weinshall**, Motion Segmentation Using an Occlusion Detector. *Proceedings: Workshop on Dynamical Vision, in 9th European Conference on Computer Vision (ECCV)*, Graz Austria, May 2006.

[B54] T. Hertz, A. Bar-Hillel and **D. Weinshall**, Learning a Kernel Function for Classification with Small Training Samples. *Proceedings: 23rd International Conference on Machine Learning (ICML)*, Pittsburgh PA, June 2006.

[B55] A. Bar-Hillel and **D. Weinshall**, Subordinate class recognition using relational object models. In *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Dec 2006.

[B56] A. Bar-Hillel and **D. Weinshall**, Learning Distance Function by Coding Similarity. *Proceedings: International Conference on Machine Learning (ICML)*, Corvallis OR, June 2007.

[B57] R. Hammer, T. Hertz, S. Hochstein and **D. Weinshall**, Classification with Positive and Negative Equivalence onstraints: Theory, Computation and Human Experiments. F. Mele et al. (Eds.): Brain, Vision, and Artificial Intelligence: Second International Symposium. BVAI 2007, LNCS 4729. pp. 264-276, 2007. Berlin Heidelberg: Springer-Verlag Press.

[B58] A. Zweig and **D. Weinshall**, Exploiting Object Hierarchy: Combining Models from Different Category Levels. *Proceedings: IEEE 11th International Conference of Computer Vision (ICCV)*, Rio de Janeiro Brazil, October 2007.

[B59] **D. Weinshall** and L. Zamir, Image Classification from Small Sample, with Distance Learning and Feature Selection. *Proceedings: 3rd International Symposium on Visual Computing*, G. Bebis et al. (Eds.): ISVC 2007, Part II, LNCS 4842, pp. 106-115, 2007.

[B60] A. Sorkin, **D. Weinshall** and A. Peled, The distortion of reality perception in schizophrenia patients, as measured in Virtual Reality. *Proceedings: 16th Annual Medicine Meets Virtual Reality Conference (MMVR)*, Long Beach CA, Jan 2008.

[B61] J. Anemueller, J.-H. Bach, B. Caputo, J. Luo, F. Ohl, F. Orabona, R. Vogels, A. Zweig, and **D. Weinshall**. Biologically Motivated Audio-Visual Cue Integration for Object Categorization. International Conference on Cognitive Systems (CogSys08), Karlsruhe, Germany, April 2008.

[B62] **D. Weinshall**, H. Hermansky, A. Zweig, J. Luo, H. Jimison, F. Ohl, and M. Pavel. Beyond Novelty Detection: Incongruent Events, when General and Specific Classifiers Disagree. *Proceedings: Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Dec 2008 [oral presentation].

[B63] R. Kliper, T. Serre, **D. Weinshall**, and I. Nelken. The Story of A Single Cell: Peeking into the Semantics of Spikes. *Proceedings: IAPR Workshop on Cognitive Information Processing (CIP)*, Elba Island, June 2010. Winner of 2nd best student paper award.

[B64] R. Kliper, Y. Vaizman, **D. Weinshall**, and S. Portuguese. Evidence for depression and schizophrenia in speech prosody. *Proceedings: Second ISCA Tutorial and Research Workshop on Experimental Linguistics - ExLing*, Athens Greece, August 2010.

[B65] A. Hendel, **D. Weinshall**, and S. Peleg. Identifying Surprising Events in Videos Using Bayesian Topic Models. *Proceedings: 10th Asian Conference of Computer Vision (ACCV)*, Queenstown New Zealand, Nov 2010.

[B66] U. Shalit, **D. Weinshall**, and G. Chechik. Online Learning in the Manifold of Low-Rank Matrices. *Proceedings: Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Dec 2010.

[B67] R. Kliper, H. Kayser, **D. Weinshall**, J. Anemüller and I. Nelken. Monaural Azimuth Localization Using Spectral Dynamics of Speech. *Proceedings: Interspeech*, Florence Italy, Aug 2011.

[B68] A. Rosenfeld and **D. Weinshall**, Extracting Foreground Masks towards Object Recognition. *Proceedings: IEEE 13th International Conference of Computer Vision (ICCV)*, Barcelona Spain, Nov 2011.

[B69] U. Shalit , **D. Weinshall** and G. Chechik, Modeling Musical Influence with Topic Models. *Proceedings: International Conference on Machine Learning (ICML)*, Atlanta GA, June 2013.

[B70] A. Zweig and **D. Weinshall**, Hierarchical Regularization Cascade for Joint Learning. *Proceedings: International Conference on Machine Learning (ICML)*, Atlanta GA, June 2013.

[B71] A. Zweig and **D. Weinshall**, Hierarchical Multi-Task Learning: a Cascade Approach Based on the Notion of Task Relatedness. *Theoretically Grounded Transfer Learning workshop, held at International Conference on Machine Learning (ICML)*, Atlanta GA, June 2013.

[B72] **D. Weinshall**, D. Hanukaev and G. Levi, LDA Topic Model with Soft Assignment of Descriptors to Words. *Proceedings: International Conference on Machine Learning (ICML)*, Atlanta GA, June 2013.

[B73] A. Golbert and **D. Weinshall**, Object Detection in Multi-view 3D Reconstruction Using Semantic and Geometric Context. *ISPRS Annals Volume II-3/W3 2013, CMRT13 - City Models, Roads and Traffic, pp. 97-102*, Antalya Turkey, Nov 2013.

[B74] Y. S. Resheff, S. Roticsy, R. Nathan and **D. Weinshall**, Matrix factorization approach to behavioral mode analysis from acceleration data. *Proceedings: IEEE International Conference on Data Science and Advanced Analytics (DSAA)*, 19-21 Oct, 2015.

[B75] R. Kliper, S. Portuguese and **D. Weinshall**, Prosodic Analysis of Speech and the Underlying Mental State. *Proceedings: Pervasive Computing Paradigms for Mental Health (MindCare)*, Springer International Publishing, Sept 2015.

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