

Tolga Tasdizen

Associate Professor of Electrical and Computer Engineering

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EDUCATION

- Ph.D. in Engineering, Brown University, Providence, RI 2001
- M.S. in Engineering, Brown University, Providence, RI 1997
- B.S. in Electrical Engineering, Bogazici University, Istanbul, Turkey 1995

WORK EXPERIENCE

- Associate Professor, Electrical and Computer Engineering 2012 - present
- Adjunct Associate Professor, Computer Science
University of Utah, Salt Lake City, UT
- Visiting Faculty, Faculty of Engineering and Natural Sciences 2014 - 2015
Sabanci University, Istanbul, Turkey
- Assistant Professor, Electrical and Computer Engineering 2008 - 2012
- Adjunct Assistant Professor, Computer Science
University of Utah, Salt Lake City, UT
- Research Assistant Professor, School of Computing 2004 - 2008
University of Utah, Salt Lake City, UT
- Postdoctoral Research Scientist, Scientific Computing and Imaging Institute 2001 - 2004
University of Utah, Salt Lake City, UT

RESEARCH INTERESTS

- Image processing and pattern recognition. Specific topics I am interested in include segmentation, semantic labeling, object detection and recognition, image registration, variational methods, machine learning and artificial neural networks.
- Analysis of data supported on low-dimensional manifolds in high-dimensional spaces, particularly in image analysis, reconstruction and filtering applications.
- Neural circuit reconstruction (connectomics) from electron microscopy image stacks; automatic methods for fast registration of very large image mosaics and segmentation.
- Tracing of long range circuits from confocal microscopy; alignment of confocal sections using automated landmark based methods.

RESEARCH GRANTS (PI or co-PI role)

- **Machine Learning and Signature Analysis of Nuclear Forensic Data**
PI: Tolga Tasdizen
Funding Agency: DHS
Award \$1,750,000
- **CAREER: Deep sparse dictionary context models and their application to image parsing and neuron tracking for connectomics**
PI: Tolga Tasdizen
Funding Agency: NSF
Award \$409,406, 2012-17
- **Utah GOED TCIP: Haemoscan**
PI: Tolga Tasdizen
Funding Agency: State of Utah
Award \$40,000, 2012-13
- **SLASH: Scalable Large Analytic Segmentation Hybrid**
co-PIs: Mark H Ellisman, Maryann E Martone and Tolga Tasdizen
Funding agency: NIH NINDS
Award \$1,864,741. 2011-15 (Tasdizen share \$646,110)
- **Fluorender: An imaging tool**
co-PIs: Charles Hansen, Tolga Tasdizen, Chi-Bin Chien
Funding agency: NIH NIGMS
Award \$1,253,900, 2011-15.
- **The influence of visual context in natural image processing in the primary visual cerebral cortex**
PI: Tolga Tasdizen
Funding Agency: University of Utah Seed Grant
Award: \$22,500, 2011 - 2012
- **A Computational Framework for Mapping Long Range Genetic Circuits**
co-PIs: Julie Korenberg and Tolga Tasdizen
Funding agency: NIH NINDS
Award: \$996,734. 2009-11
- **A Software Framework for Processing, Visualization, and Analysis of High-Resolution Microscopy Data**
PI: Tolga Tasdizen
Funding Agency: University of Utah, Technology commercialization program
Award: \$70,000. 2009-10
- **High-Dimensional, Nonparametric Density Estimation for the Analysis of Images and Shapes**
co-PIs: Ross Whitaker, Tolga Tasdizen, Jared Tanner and Davar Khoshnevisan
Funding Agency: NSF
Program: Mathematical Sciences: Innovations at the Interface with Computer Sciences
Award: \$474,000. 2008-11

- **Large-scale computational reconstruction of three-dimensional neural connectivity from serial-section microscopy**

PI: Tolga Tasdizen

Funding agency: NIH NIBIB

Program: NSF/NIH Collaborative Research in Computational Neuroscience program

Award \$1,148,297. 2005-10

RESEARCH GRANTS (Senior personnel role)

- **Multiscale Models of Melting Arctic Sea Ice**
PI: Kenneth Golden, Department of Mathematics, University of Utah
Funding Agency: Office of Naval Research
Award: \$479,316. 2012-15
- **Model-based Reconstruction for Dynamic MRI**
PI: Edward Di Bella, Department of Radiology, University of Utah
Funding Agency: NIH
Award: \$1,650,000. 2007-11
- **Prevention of Hemodialysis Vascular Access Stenosis**
PI: Alfred Cheung, Department of Internal Medicine, University of Utah
Funding Agency: NIH
Award: \$5,500,000. 2006-11

HONORS AND AWARDS

- The Scientific & Technological Research Council of Turkey (TUBITAK) Fellowship for Visiting Scientists and Scientists on Sabbatical Leave, 2014
- National Science Foundation Early Career Award, 2012
- Invited commentary by A. Cardona on our paper: *E Jurrus, S Watanabe, ARC Paiva, MH Ellisman, EM Jorgensen and T Tasdizen, Semi-Automated Neuron Boundary Detection and Nonbranching Process Segmentation in Electron Microscopy Images, Neuroinformatics, 2012.*
- College of Engineering Outstanding Teacher Award, 2012
- Electrical and Computer Engineering Department Outstanding Researcher Award, 2012
- Electrical and Computer Engineering Department Outstanding Teacher Award, 2011
- Dean's letter for top instructors in the College of Engineering, Fall 2010 (Digital Image Processing)
- Dean's letter for top instructors in the College of Engineering, Spring 2010 (Engineering Probability and Statistics)
- Best paper award MICCAI 2010 MedIA special Issue
- Dean's letter for top instructors in the College of Engineering, Fall 2009 (Estimation Theory)
- Best Student Paper Award Honorable Mention, 15th IEEE Computer Society International Conf. on Pattern Recognition, 2000.

MEDIA COVERAGE

- Utah Pulse article featuring our NSF Career Award, 10/14/2012.

PATENTS

- N. Ramesh, M. Salama and T. Tasdizen, Methods and systems for segmentation of cells for an automated differential counting system, application number US 13/650,387
- SP Callahan, BW Jones, GM Jones, E Jorgensen, J Schreiner, T Tasdizen, S Watanabe, S Kanarowski, J Cates, Microscopy Visualization, US 9,104,903 B2, August 2015.
- Characterizing datasets using sampling, weighting, and approximation of an eigendecomposition, Inventors: A. R. C. Paiva and T. Tasdizen, United States Patent No. 8,412,651, April 2013.
- L. Grady, T. Tasdizen and R. Whitaker, “System and Method for Image Segmentation by Solving an Inhomogeneous Dirichlet Problem”, United States Patent 7,542,604, June 2009.

INVENTION DISCLOSURES

- Scene Modeling with Contextual Hierarchical Models for Biologic Image Segmentation and Labeling, U-5753
- Multi-Dimensional Data Registration, Navigation and Visualization Package, University of Utah Invention Disclosure, U-5328.
- Segmentation and Classification of Blood Cells for an Automated Differential Blood Count System, University of Utah Invention Disclosure, U-5185
- Weighted Novelty Selection for Fast Kernel and Graph Methods, University of Utah Invention Disclosure, U-4920.
- Robust Fingerprint Analysis Using Manifold Topology, University of Utah Invention Disclosure, U-4549.
- IR-Tweak, IR-Mosaic, University of Utah Invention Disclosure, U-4275.
- Implicit Surface Representations for Fluids from Particle Simulations, University of Utah Invention Disclosure, U-4128.
- An Advanced Solver for the Diffusion Equation with Spatially Varying Coefficients, University of Utah Invention Disclosure, U-3750.

PROFESSIONAL ACTIVITIES (in chronological order)

- Editorial
 - Associate Editor, IEEE Transactions on Image Processing 2016 - 2019
 - Associate Editor, ISBI 2015.
 - Associate Editor, IEEE Signal Processing Letters, 2012 - 2016
 - Associate Editor, BMC Bioinformatics, 2012 - 2014
- Technical Committee
 - IEEE Signal Processing Society, Bio imaging and Signal Processing (BISP) Technical Committee Member, 2012-2017

- IEEE Signal Processing Society, Bio imaging and Signal Processing (BISP) Technical Committee Awards Subcommittee Member, 2012-2013
- IEEE Signal Processing Society, Bio imaging and Signal Processing (BISP) Technical Committee Associate Member, 2009-2011
- Conference Organization
 - Program Committee SIU 2015
 - Program Committee VISAPP 2012, 2015
 - Program Committee VipIMAGE 2013
 - Track area chair and session chair 20th International Conference on Pattern Recognition; *Pattern Recognition and Machine Learning Track*, 2010
 - Program Committee CompIMAGE 2010, 2012
 - Program Committee IMAGAPP 2010
 - Program Committee Microscopic Image Analysis with Applications in Biology (MIAAB) 2011
 - Program Chair, Fourth International Workshop on *Microscopic Image Analysis with Applications in Biology*, NIH Campus, Bethesda, MD, 2009.
 - Session Chair 6th IEEE International Symposium on Biomedical Imaging (ISBI): From Nano to Macro; *Electron Microscopy* session, 2009.
 - Organizing committee, MICCAI 2008 Workshop: *Microscopic Image Analysis with Applications in Biology*.
 - Program committee, MICCAI 2006 Workshop: *Microscopic Image Analysis with Applications in Biology*.
 - Scientific committee, VI International Congress on Computational Bioengineering
- Funding Agency Service
 - NIH Zebrafish study section, 2014.
 - NIH P41 Scientific Review Panel Member, 2012
 - NSF Robust Intelligence, Review Panel Member, 2011.
 - NSF/NIH *Collaborative Research in Computational Neuroscience* program, Review Panel Member, 2006, 2008, 2009 and 2010.
- Journal reviewing: IEEE Transactions on Image Processing, IEEE Transactions on Medical Imaging, IEEE Transactions on Pattern Analysis and Machine Intelligence, Medical Image Analysis, IEEE Transactions on Visualization and Computer Graphics, Journal of Neuroscience Methods, IEEE Reviews in Biomedical Engineering, Journal of Mathematical Imaging and Vision, Pattern Analysis and Applications, ACM Solid Modeling, SIAM Journal of Scientific Computing, VisSym, Journal of Electronic Imaging, The Visual Computer, Elsevier Methods, Pattern Recognition Letters, Neuron.
- Conference Reviewing: ISBI, MICCAI, CVPR, ICIP, ICASSP, IEEE Visualization, Eurographics, SIGGRAPH
- Other
 - Judge, Bench to Bedside Competition, April 4, 2016, Salt Lake City, UT.

- PhD external examiner at University College London 2013
- IEEE International Symposium on Biomedical Imaging (ISBI): From Nano to Macro, Lunch with Leaders event participant, Barcelona, 2012.
- Imaging and Computer in the Loop breakout session speaker, Opportunities in Biology at the Extreme Scale of Computing, Chicago, 2009.

MEMBERSHIPS

- Senior Member IEEE, IEEE Signal Processing Society and IEEE Computer Society

TEACHING

- *Digital Signal Processing*, Graduate and undergraduate level, University of Utah, Spring 2016.
- *Pattern Recognition*, Graduate level, Electrical and Computer Engineering, University of Utah, Spring 2014.
- *Estimation Theory*, Graduate level, Electrical and Computer Engineering, University of Utah, Fall 2009, Fall 2011.
- *Engineering Probability and Statistics*, Undergraduate level, Electrical and Computer Engineering, University of Utah, Spring 2009, Spring 2010, Spring 2011, Spring 2012 and Spring 2013.
- *Digital Image Processing*, Graduate level, Electrical and Computer Engineering, University of Utah, Fall 2008, Fall 2010, Fall 2013, Fall 2015, Fall 2016.
- *Machine Learning*, Graduate and Undergraduate level, Computer Science, University of Utah, Spring 2006.
- Organized the *Image Analysis Seminar Series*, University of Utah, Fall 2015 & Spring 2016.
- Organized the *Scientific Computing and Imaging Seminar Series*, University of Utah, Fall 2007 & Spring 2008.

Ph.D. STUDENTS GRADUATED

- Ting Liu (2016), CS. *Image Segmentation with Hierarchical Models*
- Cory Jones (2016), ECE. *Connectomics: A semi-automatic approach*
- Srikant Kamesh Iyer (2016), ECE, *Improved Total Variation Reconstruction Methods for Cardiac Magnetic Resonance Imaging*
- Mojtaba Seyedhosseini (2014), ECE, *Scene Labeling with Supervised Contextual Models*
- Elizabeth Jurrus (2011), CS, *Segmentation of Neurons from Electron Microscopy Images*

M.S. STUDENTS GRADUATED

- Meenakshi Barjatia, M.S. in Electrical and Computer Engineering (2014), *Analysis and Segmentation of Arctic Melt Pond Images*.
- Nisha Ramesh, M.S. in Electrical and Computer Engineering (2012), *Segmentation and Classification of Blood Cells for an Automated Differential Blood Count System*.

- Bradley Grimm, M.S. in Computer Science (2011), *non-thesis option*.
- Kannan Umadevi Venkataraju, M.S. Computer Science (2010), *Automatic Markup of Neural Cell Membranes Using Boosted Decision Stumps*.
- Deepak Antony, M.S. in Computational Engineering and Science (2009), *non-thesis option*.
- Samuel Preston, M.S. Computer Science (2009), *Processing of MRI Data for Simulation and Monitoring of Drug Delivery*.
- Neda Sadeghi, M.S. in Computational Engineering and Science (2008), *Automatic Classification of Alzheimer's Disease and Frontotemporal Dementia: A Decision Tree Approach with FDG-PET imaging*.

CURRENT GRADUATE STUDENTS

- Nisha Ramesh, Ph.D. candidate Electrical and Computer Engineering
- Mehdi Sajjadi, Ph.D. candidate Electrical and Computer Engineering
- Mehran Javanmardi, Ph.D. candidate Computer Science
- Fitsum Mesadi, Ph.D. candidate Electrical and Computer Engineering

POSTDOCTORAL RESEARCHERS

- Antonio R. Paiva, Ph.D. University of Florida

PAST AND CURRENT UNDERGRADUATE STUDENT PROJECTS

- Yinchen Cheng, Wangye Yin, Yuxio Huo, Electrical and Computer Engineering, *Interactive segmentation of Electron Microscopy Image Stacks*
- Jason Thummel, School of Computing, *Vesicle Detection for Electron Microscopy Images with ImageJ*
- Michael Yang, Electrical and Computer Engineering, *User Interface for Neural Circuit Reconstruction from Electron Microscopy*

PUBLICATIONS

- **Book Chapter**

1. T Tasdizen, SM Seyedhosseini, T Liu, C Jones and E Jurrus, Image segmentation for connectomics using machine learning, in *Computational Intelligence in Biomedical Imaging*, pp 237–278, ed. K Suzuki, Springer New York, 2014

- **Journal**

1. F Mesadi, M Cetin and T Tasdizen, Disjunctive Normal Parametric Level Set With Application to Image Segmentation, submitted to IEEE Trans Image Processing.
2. F Mesadi, E Erdil, M Cetin and T Tasdizen, Image Segmentation Using Disjunctive Normal Appearance and Shape Priors, submitted to IEEE PAMI.

3. C Jones, M Javanmardi, J Ibarra, MH Ellisman and T Tasdizen, Neurospell: A complete pipeline for 3D segmentation of neurites in electron microscopy images, submitted J Neuroscience Methods.
4. M Sajjadi, SM Seyedhosseini and T Tasdizen, Disjunctive Normal Networks, accepted, Neurocomputing.
5. T Liu, SM Seyedhosseini and T Tasdizen, Image Segmentation Using Hierarchical Merge Tree, 25(10): 4596–4607, IEEE Trans Image Processing, October 2016
6. SK Iyer, T Tasdizen, N Burgon, E Kholmovski, N Marrouche, G Adluru and EVR DiBella, Compressed sending for rapid late gadolinium enhanced imaging of the left atrium: A preliminary study, Magnetic Resonance Imaging, 34(7): 846–854, 2016.
7. SK Iyer, T Tasdizen, D Likhite and EVR DiBella, Split Bregman Multicoil Accelerated Reconstruction Technique (SMART): A new framework for rapid reconstruction of cardiac perfusion MRI, Medical Physics, 43(4):1969–1981, 2016.
8. SM Seyedhosseini and T Tasdizen, Semantic Image Segmentation with Contextual Hierarchical Models, IEEE PAMI, 38(5):951–964, May 2016.
9. M Barjatia, T Tasdizen, B Song and KM Golden, Network Modeling of Arctic Melt Ponds, Cold Regions Science and Technology, 124:40-53, April 2016.
10. I Arganda-Carreras, SC Turaga, DR Berger, D Ciresan, A Giusti, LM Gambardella, J Schmidhuber, D Laptev, S Dwivedi, J Buhmann, T Liu, M Seyedhosseini, T Tasdizen, L Kamentsky, R Burget, V Uher, X Tan, C Sun, TD Pham, E Bas, MG Uzunbas, A Cardona, J Schindelin, HS Seung, Electron Microscopy Challenge: Crowdsourcing the creation of machine intelligence for connectomics, Frontiers in Neuroanatomy, 9:00142, 2015.
11. M Sajjadi, SM Seyedhosseini and T Tasdizen, Nonlinear regression with logistic product basis networks, 22:8, pp 1011–1015, IEEE Signal Processing Letters, August 2015.
12. C Jones, T Liu, NW Cohan, MH Ellisman and T Tasdizen, Efficient Semi-Automatic 3D Segmentation for Neuron Tracing in Electron Microscopy Images, J Neuroscience Methods, 246:13–21, May 2015.
13. SM Seyedhosseini, S Shushruth, T Davis, JM Ichida, PA House, B Greger, A Angelucci and T Tasdizen, Informative features of local field potential signals in primary visual cortex during natural image stimulation, J Neurophysiology 113(5):1520-32, March 2015.
14. SM Seyedhosseini and T Tasdizen, Disjunctive Normal Random Forests, Pattern Recognition 48:3, pp 976–983, March 2015.
15. AJ Perez, SM Seyedhosseini, TJ Deerinck, EA Bushong, T Tasdizen and MH Ellisman, A Workflow for the Automatic Segmentation of Organelles in Electron Microscopy Image Stacks, Frontiers in Neuroanatomy, 8:126, 2014. In e-book *Quantitative Analysis of Neuroanatomy*.
16. T Liu, C Jones, SM Seyedhosseini and T Tasdizen, A Modular Hierarchical Approach to 3D Electron Microscopy Image Segmentation, J Neuroscience Methods, 226, pp. 88-102, 2014.
17. SM Seyedhosseini, MH Ellisman and T Tasdizen, Multi-Class Multi-Scale Series Contextual Model for Image Segmentation, IEEE Trans Image Processing, 22:11 pp. 4486–4496, November 2013.
18. E Jurrus, S Watanabe, ARC Paiva, MH Ellisman, EM Jorgensen and T Tasdizen, Semi-Automated Neuron Boundary Detection and Nonbranching Process Segmentation in Electron Microscopy Images, Neuroinformatics. 2013 Jan;11(1):5-29

19. ARC Paiva and T Tasdizen, Fingerprint Image Segmentation using Data Manifold Characteristic Features, *International Journal of Pattern Recognition and Artificial Intelligence*, 26:4, pp 12560, 2012.
20. L Hoglebe, ARC Paiva, E Jurrus, C Christensen, M Bridge, JR Korenberg, PR Hof, B Roysam, T Tasdizen, Serial Section Registration of Axonal Confocal Microscopy Datasets for Long Range Neural Circuit Reconstruction, *Journal of Neuroscience Methods* 207, pp. 200-210, June 2012.
21. N Ramesh, BJ Dangott, M Salama and T Tasdizen, Segmentation and Two-Step Classification of White Blood Cells in Peripheral Blood Smear, *Journal of Pathology Informatics* 3:13, 2012.
22. SK Iyer, T.Tasdizen and EVR DiBella, Edge Enhanced Spatio-Temporal Constrained Reconstruction of Undersampled Dynamic Contrast Enhanced Radial MRI, *Magnetic Resonance Imaging* 30, pp. 610-619, 2012
23. ML Berlanga, S Phan, EA Bushong, S Lamont, S Wu, O Kwon, BS Phung, M Terada, T Tasdizen, E Martone and MH Ellisman, Three-dimensional reconstruction of serial mouse brain sections using high-resolution large-scale mosaics, *Frontiers in Neuroscience Methods*, Vol 5, March 2011.
24. JR Anderson, BW Jones, CB Watt, MV Shaw, J.-H Yang, D DeMill, JS Lauritzen, Y Lin, KD Rapp, D Mastonarde, P Koshevoy, B Grimm, T Tasdizen, RT Whitaker and RE Marc, Exploring the Retinal Connectome, *Molecular Vision*, 17:355-379, February 2011.
25. JR Anderson, BC Grimm, S Mohammed, BW Jones, T Tasdizen, J Spaltenstein, P Koshevoy, RT Whitaker and RE Marc, The Viking Viewer: Scalable Multiuser Annotation and Summarization of Large Volume Datasets, *Journal of Microscopy*, 241(1), pp. 13-28, January 2011.
26. E Jurrus and ARC Paiva, S Watanabe, JR Anderson, BW Jones, RT Whitaker, EM Jorgensen, RE Marc and T Tasdizen, Detection of Neuron Membranes in Electron Microscopy Images using Auto-context, *Medical Image Analysis*, 14:6, pp. 770-783, December 2010
27. G Adluru, T Tasdizen, M Schabel and EVR DiBella, Reconstruction of 3D Dynamic Contrast Enhanced MRI using Non-Local Means, *Journal of Magnetic Resonance Imaging*, 32(5), pp. 1217-27, November 2010
28. T Tasdizen, P Koshevoy, BC Grimm, JR Anderson, BW Jones, CB Watt, RT Whitaker and RE Marc, Automatic mosaicking and volume assembly for high-throughput serial-section transmission electron microscopy, *Journal of Neuroscience Methods*, 193(1): 132-44, October 2010
29. S Gerber, T Tasdizen, PT Fletcher, S Joshi, RT Whitaker and the Alzheimers Disease Neuroimaging Initiative (ADNI), Manifold modeling for brain population analysis, *Medical Image Analysis*, Volume 14, Issue 5, Special Issue on the 12th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2009, October 2010, Pages 643-653. **Best paper of the special issue award.**
30. C Schlimper, O Nemitz, U Dorenbeck, J Scorzin, RT Whitaker, T Tasdizen, M Rumpf and K Schaller, Restoring three-dimensional magnetic resonance angiography images with mean curvature motion, *Neurological Research*, vol. 32, no. 1, pp. 87-93, February 2010.
31. T Tasdizen, Principal Neighborhood Dictionaries for Non-local Means Image Denoising, *IEEE Transactions on Image Processing*, vol. 18, no. 12., pp. 2649-60, December 2009. **Top third accessed paper in IEEE Xplore in November 2009.**

32. JR Anderson, BW Jones, J-H Yang, CB Watt, P Koshevoy, J Spaltenstein, UV Kannan, RT Whitaker, D Mastronarde, T Tasdizen and RE Marc, A Computational Framework for Ultrastructural Mapping of Neural Circuitry, PLoS Biology, vol. 7, no. 3, pp. e74, March 2009.
33. JS Preston, T Tasdizen, CM Terry, AK Cheung and RM Kirby, Using the Stochastic Collocation Method for the Uncertainty Quantification of Drug Concentration due to Depot Shape Variability, IEEE Trans. Biomedical Engineering, Vol. 56, no. 3, pp. 609-619, March 2009.
34. E Jurrus, T Tasdizen, P Koshevoy, PT Fletcher, M Hardy, C Chien, W Denk, and RT Whitaker, Axon Tracking in Serial Block-Face Scanning Electron Microscopy, Medical Image Analysis, Volume 13, Issue 1, pp. 180-188, February 2009.
35. N Sadeghi, NL Foster, AY Wang, S Minoshima, AP Lieberman and T Tasdizen, Automatic Diagnostic Classification of Dementia with FDG-PET Using a Spatial-Decision Tree Approach, Alzheimer's and Dementia The Journal of the Alzheimer's Association, Vol 4:4, Suppl. 1, T28, July 2008.
36. NL Foster, AY Wang, T Tasdizen, PT Fletcher, JM Hoffman and RA Koeppe, Realizing the potential of positron emission tomography with F-fluorodeoxyglucose to improve the treatment of Alzheimer's disease, The Journal of the Alzheimer's Association, Vol 4:1, Suppl. 1, pp. 29-36, January 2008.
37. NL Foster, AY Wang, T Tasdizen, K Chen, W Jagust, RA Koeppe, E Reiman, MW Weiner and S Minoshima, Cerebral Hypometabolism Suggesting Frontotemporal Dementia in an Alzheimer's Disease Clinical Trial, Neurology, 70:11, A103, 2008.
38. G Adluru, SP Awate, T Tasdizen, RT Whitaker and EVR DiBella, Temporally Constrained Reconstruction of Dynamic Cardiac Perfusion MRI, Magnetic Resonance in Medicine, 57, pp. 1027-1036, June 2007.
39. O Nemitz, T Tasdizen, M Rumpf and RT Whitaker, Anisotropic Curvature Motion for Structure Enhancing Smoothing of 3D MR Angiography Data, Journal of Mathematical Imaging and Vision, 7:3, pp 217-229, April 2007.
40. SP Awate, T Tasdizen, NL Foster and RT Whitaker, Adaptive Markov modeling for mutual-information-based, unsupervised MRI brain-tissue classification, Medical Image Analysis, 10:5, pp. 726-739, October 2006. *8th most cited paper in Medical Image Analysis 2006-9.*
41. T Tasdizen and RT Whitaker, Higher-order nonlinear priors for surface reconstruction, IEEE Transactions on Pattern Analysis and Machine Intelligence, 26:7, pp. 878-891, July 2004.
42. T Tasdizen, RT Whitaker, P Burchard and S Osher, Geometric Surface Processing via Normal Maps, ACM Transactions on Graphics, 22:4, pp. 1012-1033, October 2003.
43. T Tasdizen, J.-P Tarel and DB Cooper, Improving the Stability of Algebraic Curves for Applications, IEEE Transactions on Image Processing, 9:3, pp. 405-416, March 2000.
44. T Tasdizen, L Akarun and C Ersoy, Color Quantization with Genetic Algorithms, Signal Processing: Image Communication, Elsevier, Vol. 12, pp. 49-57, March 1998.

- **Conference**

1. E Erdil, F Mesadi, T Tasdizen and M Cetin, Disjunctive Normal Shape Boltzmann Machine, submitted to ICASSP 2017.
2. M Sajjadi, M Javanmardi and T Tasdizen, Regularization With Stochastic Transformations and Perturbations for Deep Semi-Supervised Learning, accepted to NIPS 2016.

3. MU Ghani, E Erdil, SD Kanik, AO Argunsah, A Hobbiss, I Israely, D Unay, T Tasdizen and M Cetin, Dendritic Spine Shape Analysis: A Clustering Perspective, accepted to ECCV BioImage Computing Workshop, 2016.
4. T Liu, M Zhang, M Javanmardi , N Ramesh and T Tasdizen, SSHMT: Semi-supervised Hierarchical Merge Tree for Electron Microscopy Image Segmentation, accepted to ECCV 2016.
5. M Sajjadi, M Javanmardi and T Tasdizen, Mutual exclusivity loss for semi-supervised deep learning, ICIP 2016.
6. F Mesadi, M Cetin and T Tasdizen, Disjunctive Normal Level Set: An Efficient Parametric Implicit Method, ICIP 2016.
7. M Elwardy, T Tasdizen and M Cetin, Disjunctive Normal Unsupervised LDA for P300-based Brain-Computer Interfaces, MLUB 2016.
8. E Erdil, M Cetin and T Tasdizen, MCMC Shape Sampling for Image Segmentation with Nonparametric Shape Priors, CVPR 2016.
9. E Erdil, L Rada, AO Argunsah, D Unay, T Tasdizen and M Cetin, Joint Nonparametric Shape And Feature Density Estimation For Segmentation Of Dendritic Spines, ISBI 2016.
10. MU Ghani, AO Argunsah, I Israely, D Unay, T Tasdizen and M Cetin, On Comparison Of Manifold Learning Techniques For Dendritic Spine Classification, ISBI 2016.
11. MU Ghani, F Mesadi, SD Kanik, AO Argunsah, I Israely, D Unay, T Tasdizen and M Cetin, Dendritic Spine Shape Analysis Using Disjunctive Normal Shape Models, ISBI 2016.
12. F Mesadi, M Cetin and T Tasdizen, Disjunctive Normal Shape and Appearance Priors with Applications to Image Segmentation, MICCAI 2015.
13. I Yilmaz, SD Kanik, T Tasdizen and M Cetin, Semi-supervised Adaptation of Motor Imagery Based BCI Systems, SIU 2015.
14. MU Ghani, SD Kanik, AO Argunsah, T Tasdizen, D Unay and M Cetin, Dendritic Spine Shape Classification from Two-Photon Microscopy Images, SIU 2015.
15. E Erdil, AO Argunsah, T Tasdizen, D Unay and M Cetin, A Joint Classification And Segmentation Approach For Dendritic Spine Segmentation In 2-Photon Microscopy Images, ISBI 2015.
16. N Ramesh, F Mesadi, M Cetin and T Tasdizen, Disjunctive Normal Shape Model, ISBI 2015.
17. N Ramesh and T Tasdizen, Cell Tracking Using Particle Filters With Implicit Convex Shape Model In 4D Confocal Microscopy Images, ICIP 2014.
18. SM Seyedhosseini, M Sajjadi and T Tasdizen, Image Segmentation with Cascaded Hierarchical Models and Logistic Disjunctive Normal Networks, ICCV 2013.
19. T Liu, SM Seyedhosseini, MH Ellisman and T Tasdizen, Watershed Merge Forest Classification For Electron Microscopy Image Stack Segmentation, ICIP 2013.
20. N Ramesh and T Tasdizen, Three-Dimensional Alignment Of Confocal Microscopy Stacks, ICIP 2013.
21. SM Seyedhosseini, RJ Giuly, MH Ellisman and T Tasdizen, Segmentation of Mitochondria In Electron Microscopy Images Using Algebraic Curves, ISBI 2013.
22. C Jones, SM Seyedhosseini, MH Ellisman and T Tasdizen, Neuron Segmentation In Em Images Using Partial Differential Equations, ISBI 2013.

23. C Jones, T Liu, MH Ellisman and T Tasdizen, Semi-Automatic Neuron Segmentation In Em Images Via Sparse Labeling, ISBI 2013.
24. T Liu, S. M. Seyedhosseini, E Jurrus, MH Ellisman and T Tasdizen, Watershed Merge Tree Classification for Electron Microscopy Image Segmentation, ICPR 2012.
25. N Ramesh, ME Salama and T Tasdizen, Segmentation of Haematopoeitic Cells in Bone Marrow Using Circle Detection and Splitting Techniques, ISBI 2012.
26. E Jurrus, S Watanabe, R Guily, ARC Paiva, M Ellisman, E Jorgensen, T Tasdizen, Semi-automated Neuron Boundary Detection and Slice Traversal Algorithm for Segmentation of Neurons from Electron Microscopy Images, Microscopic Image Analysis with Applications in Biology (MIAAB) Workshop, Chicago, August 1, 2011.
27. SM Seyedhosseini, R Kumar, E Jurrus, R Guily, M Ellisman, H Pfister and T Tasdizen, Detection of Neuron Membranes in Electron Microscopy Images using Multi-scale Context and Radon-like Features, Int. Conf. on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2011.
28. SM Seyedhosseini, ARC Paiva and T Tasdizen, Fast AdaBoost Training using Weighted Novelty Selection, International Joint Conference on Neural Networks 2011.
29. Z Leng, J Korenberg, B Roysam and T Tasdizen, A Rapid 2-D Centerline Extraction Method Based On Tensor Voting, IEEE International Symposium on Biomedical Imaging (ISBI): From Nano to Macro, 2011.
30. L Hoglebe, ARC Paiva, E Jurrus, C Christensen, M Bridge, J Korenberg and T Tasdizen, Trace Driven Registration Of Neuron Confocal Microscopy Stacks, IEEE International Symposium on Biomedical Imaging (ISBI): From Nano to Macro, 2011.
31. ARC Paiva and T Tasdizen, Detection of Salient Image Points using Manifold Structure, Int. Conf. on Pattern Recognition 2010.
32. ARC Paiva, E Jurrus and T Tasdizen, Using Sequential Context for Image Analysis, Int. Conf. on Pattern Recognition 2010.
33. G Adluru, T Tasdizen, RT Whitaker and E DiBella, Improving Undersampled MRI Reconstruction Using Non-Local Means, Int. Conf. on Pattern Recognition 2010.
34. SM Seyedhosseini, ARC Paiva and T Tasdizen, Image Parsing with a Three-State Series Neural Network Classifier, Int. Conf. on Pattern Recognition 2010.
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