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ELVAN CEYHAN
Auburn University

RESEARCH INTERESTS

◇Statistical machine learning and data science (graph- and network-based learning, imbalanced classification);

◇Random geometric graphs (Proximity Catch Digraphs (PCDs), their construction and characterization, domination, edge and arc density);

◇Network optimization and traversal (in relation to Stochastic Obstacle Scene Problem and Canadian Traveler's Problem);

◇Spatial point pattern and data analysis (by nearest neighbor and graph theoretic (i.e. PCD) methods) and their applications;

◇Statistical methods for medical data and image analysis.

EDUCATION

PhD, Johns Hopkins University, Baltimore, MD 21218, USA. Applied Mathematics and Statistics. 2000 - 2005. Date of issuance: May 26, 2005. Advisor: Prof. Carey E. Priebe. Dissertation title: An Investigation of Proximity Catch Digraphs in Delaunay Tessellations.

MSE, Johns Hopkins University, Baltimore, MD 21218, USA. Statistics/ Mathematical Sciences. 2000 - 2002. Date of issuance: May 23, 2002.

MS, Oklahoma State University, Stillwater, OK 74078, USA. Statistics. 1998 - 2000. Date of issuance: July 28, 2000. Advisor: Dr. Carla L. Goad. Thesis title: A Comparison of Analysis of Covariance and ANOVA Methods Using Covariate-Adjusted Residuals.

BS, Koç University, Istanbul, Turkey. Mathematics. 1993 - 1997. Date of issuance: June 30, 1997.

WORK EXPERIENCE

Research Experience

Associate Professor, 2019 July — Present. Department of Mathematics and Statistics, Auburn University, Auburn, AL.

Deputy Director, 2017 August 16 — 2019 May 15. SAMSI (Statistical and Applied Mathematical Sciences Institute), Durham, NC.

Research Associate Professor, 2017 July — 2019 May. Department of Statistics, North Carolina State University, Raleigh, NC.

Visiting Associate Professor, 2016 September — 2017 June. Department of Statistics, University of Pittsburgh, Pittsburgh, PA.

Associate Professor, 2011 August — 2016 August and **Assistant Professor,** 2005 September — 2011 August. Department of Mathematics, Koç University, Istanbul, Turkey.

Research Fellow, 2013 August — 2014 July. SAMSI (Statistical and Applied Mathematical Sciences Institute), Durham, NC.

Affiliated with the Graduate Program in Computational Sciences and Engineering 2006 — 2016. Graduate School of Science and Engineering, Koç University, Istanbul, Turkey.

Visiting Scholar, 2007 Summer. Center for Bioengineering, BAMM Labs: Bio-Acoustic-MEMS in Medicine, Harvard-MIT Health Science and Technology, Harvard Medical School, Brigham and Women's Hospital, Cambridge, MA.

Post-doctoral Fellow, 2004 June — 2005 August. Center for Imaging Science, Johns Hopkins University, Baltimore, MD. (I defended my PhD Thesis in 2004, but official date of issuance of my diploma is 2005.)

Teaching Experience

Koç University (2005 Fall - 2016 Spring)
Undergraduate Classes:
Intro to Statistics (x18), Probability Theory (x2), Differential Equations (x6), Calculus (x5), Statistics for Sciences (x1), Statistics for Social Sciences (x2), Linear Algebra (x1), Multivariable Calculus and Matrix Algebra (x1), Introduction to Abstract Mathematics (x1), Multivariable Calculus & Linear Algebra (x2)
Graduate Classes (as Selected Topics):
Probability and Statistical Theory and Applications, Probability and Mathematical Statistics, Mathematical Modeling of Infectious Diseases, Selected Topics in Probability and Statistics, and Theory of Point Estimation.

University of Pittsburgh (2016-2017) Intro to Statistics, Mathematical Statistics, Nonparametric Statistics, and Statistical Machine Learning.

North Carolina State University (2018 Fall) Statistical Inference and Regression for Engineering.

Auburn University (2019 Fall - Present) Mathematical Statistics I & II (from the Statistics prelim sequence), Bayesian Statistics, Probability & Statistics for Data Science, and Computational Statistics.

TRAINING

Participated in MOSI (Mobile Summer Institute) on active learning. 2022 Summer. Biggio Center, ACLC, Auburn University, Auburn, AL.

HONORS AND AWARDS

— Featured in the "I benefited from a Marie Curie Action - IOF in the spotlight" section of the Marie Curie Alumni Association Newsletter No. 6, May, 2015.
— Complimentary/Supporting Membership to New York Academy of Sciences, 03/01/2015 - 02/29/2016.
— Research Fellow at SAMSI, 2013-2014.
— Featured in the "Statistician Job of the Week" section of www.statistics2013.org as part of International Year of Statistics in the week of October 17, 2013.
— Election to Global Young Academy, 2013-2018 (currently Alumni Member of GYA).
— Election to TWAS (The Academy of Sciences for the Developing World) as Young Affiliate Fellow, 2012 - 2016.
— Elected Member of ISI (International Statistical Institute), 2011 November - Present.
— The article "Extension of one-dimensional proximity regions to higher dimensions. *Computational Geometry: Theory and Applications*, 43(9):721-748" was featured at VerticalNews service of NewsRx.com.)
— Listed in the Marquis Who's Who in the World, 28-34th editions (2010-2016), in Marquis Who's Who in America 2018 and selected for 2017 Albert Nelson Marquis Lifetime Achievement Award.
— The Second Best Oral Presentation Award at the 30th National Radiology Congress, Antalya, Turkey, November 4-9, 2009.
— Member, Phi Kappa Phi Honor Society, 1999 - Present.

GRANTS AND EXTERNAL FUNDING

— PI, National Science Foundation (NSF) Award # 2319157, "ATD: Stochastic Obstacle Scene Problem with Adversarial Agents", $300,000, 09/01/2023-08/31/2026.
— PI, Office of Naval Research (ONR) Grant # N00014-22-1-2572, "Adversarial Risk Analysis for Optimal Obstacle Evasion", $358,000, 2022 - 2024.
— Simons Collaboration Grant - 855850, "Graph Theoretic Learning and Spatial Methods", $42,000, 2021 - 2026.
— NSF Award DMS-1638521, "Statistical and Applied Mathematical Sciences Institute - SAMSI", $3,097,333 per year for three years, September 1, 2017 to August 31, 2020. (co-PI of the grant and Deputy Director of SAMSI, September 1, 2017 to 05/15/2019.)
— EU-FP7 Marie Curie International Outgoing Fellowship (€233,921, July 2013–July 2015) Project title:

PRinHDD - Pattern Recognition in High Dimensional Data. Result in Brief of the project is outlined at http://cordis.europa.eu/result/rcn/182954_en.html.

— Funding (Travel & Accommodation) Support for — 57th Session of the International Statistical Institute, Durban, South Africa, 2009; — 59th World Statistics Congress, Hong Kong, China, 2013; — 61st World Statistics Congress, Rio de Janeiro, Brazil, 2015.

— Funding (Travel & Accommodation) Support for the 4th International Conference of Young Scientists and Annual General Meeting of the Global Young Academy, Santiago, Chile, 21-25 May 2014.

— TUBITAK (Turkish Scientific and Technological Research Council) 1001 Grant, July 2012 - July 2013.

— TUBITAK Career Grant, February 2008 — February 2011.

— European Science Foundation scholarship for the IASC-ERS Summer School "Computational Aspects in Environmental Statistics", Pamporovo, Bulgaria, 2009.

— Harvard University - Koç University Visiting Scholarship (2007 summer)

— Abel Wolman Fellowship, Johns Hopkins University, 2000 - 2001.

EDITORIAL ACTIVITIES

— Editorial Board Member: Measurement: Interdisciplinary Research and Perspectives, 2023 - Present.

— Associate Editor: Journal of Probability and Statistical Sciences, 2007 - 2013, & 2021 - Present.

— Associate Editor: Computational Statistics & Data Analysis, 2008 - 2016.

— Editorial Board Member: Model Assisted Statistics and Applications, 2007 - 2012.

— Member: Scientific Advisory Board for Human Brain Mapping (HBM) Meeting, June 10-14, 2007, Chicago, IL, USA & abstract reviewer for HBM2007 Meeting.

PROFESSIONAL SERVICE

— NASEM (National Academies of Sciences, Engineering, and Medicine) Volunteer (2023-)

— AI@AU Research Committee Member, September 2022 - Present.

— American Statistical Association AL-MS Chapter - Auburn University Representative, 2022 - Present.

— Planning Committee Member of NASEM AI-Biological Data Workshop "Engaging Scientists to Prevent Harmful Exploitation of Advanced Data Analytics and Biological Data — A Workshop Series", 2022-2023 (co-organized and attended at the first workshop on 11/15/2022 and second workshop on 02/09/2023).

— Reviewer for the Simons Collaboration Grants, 2022.

— Expert reviewer for the 2016 evaluation of H2020 MSCA IF - MAT proposals.

— Member of Board of Directors of IASC-ERS (International Association for Statistical Computing - European Regional Section), 2012-2016.

— Panel/Jury Member for TUBITAK Projects, 2011-2013.

— Substitute council member of the Turkish Statistical Society (Türk Istatistik Derneği) 2010 - 2016.

— External consultant/reviewer for TUBITAK Projects, 2010, 2011, 2012.

— Department Chair/Coordinator, March 10, 2010- March 10, 2011.

— Contact Member for the Turkish language in the ISI Multilingual Glossary of Statistical Terms Project, 2008 - 2016. (see http://isi.cbs.nl/glossary.htm).

— Faculty Council Member as assistant professor for the Sciences Faculty Council at Koç University, 2008 - 2011.

— Faculty Council Member as assistant professor for the Arts and Sciences Faculty Council at Koç University, 2006 - 2008.

ORGANIZATIONAL ACTIVITIES

12. Seminar Organizer: Organized Statistics and Data Science Seminars at Department of Mathematics and Statistics, Auburn University, Fall 2020 & Spring 2022.

11. Deputy Director at SAMSI (Statistical and Applied Mathematical Sciences Institute), RTP, NC, 2017-2019. Organized or co-organized numerous undergraduate workshops, professional development workshops, workshops for URMs, research workshops under year-long programs.

10. Co-organizer (with A. Manukyan) of the Invited Session titled "Instance and Graph Based Learning from High Dimensional Data" at the International Conference on Information Complexity and Statistical Modeling in High Dimensions with Applications, Cappadocia, Turkey, May 18-21, 2016.

9. Organizer of the Special Topic Session 72 (STS072) titled "Graph theoretic methods for spatial data analysis" at the 59th International Statistical Institute (ISI) World Statistics Congress, Hong Kong, China, August 25-30, 2013.

8. Scientific Programme Committee member and co-chair of the Local Organizing Committee of 8th World Congress in Probability and Statistics, Istanbul, Turkey, July 9-14, 2012.

7. Scientific Programme Committee and co-chair of the Local Organizing Committee member of Pre-world-congress Meeting of Young Researchers in Probability and Statistics 2012 (PWCYPS 2012), Koç University, Istanbul, Turkey, July 6-8, 2012.

6. Scientific Programme Committee member and Chair of an Invited Session at NEDETAS (New Developments in Theory and Applications of Statistics) Conference, Ankara, Turkey, May 2-4, 2011.

5. Scientific Programme Committee member at the 3rd International Conference of the European Research Consortium for Informatics and Mathematics (ERCIM) Working Group on Computing & Statistics (ERCIM 10), London, UK, December 10-12, 2010.

4. Organizer and Chair for the Session (ES27) titled "Analysis of spatial data: estimation, modelling, and inference" at the 3rd International Conference of the ERCIM Working Group on Computing & Statistics (ERCIM 10), London, UK, December 10-12, 2010.

3. Organizer and Chair of the Invited Paper Meeting 35 (IPM35) titled "Spatial Statistics: Recent Advances in Epidemiological Applications" at the 57th Session of the ISI, Durban, South Africa, August 16-22, 2009.

2. Organizing Committee Member for the 21. National Mathematics Symposium. Istanbul, Turkey, September 1-4, 2008.

1. Seminar Organizer: Co-organized Math-Sci Seminars at College of Arts and Sciences, Koç University, Fall 2006 Spring 2007.

SOFTWARE - R PACKAGES

— `nnspat`: Nearest Neighbor Methods for Spatial Data Analysis, author and maintainer, CRAN: `https://cran.r-project.org/web/packages/nnspat/index.html` and GitHub: `https://github.com/elvanceyhan/nnspat`.

— `pcds`: Proximity Catch Digraphs and Their Applications, author and maintainer, CRAN: `https://cran.r-project.org/web/packages/pcds/index.html` and GitHub: `https://github.com/elvanceyhan/pcds`.

— `pcds.ugraph`: Underlying and Reflexivity Graphs of Proximity Catch Digraphs and Their Applications, author and maintainer, CRAN: `https://cran.r-project.org/web/packages/pcds.ugraph/index.html` and GitHub: `https://github.com/elvanceyhan/pcds.ugraph`.

— `PCDSL`: Proximity Catch Digraphs: Statistical Learning, author and contributor, GitHub: `https://github.com/Artur-man/PCDSL`

PAPERS AND PUBLICATIONS

* **Articles Published in Probability, Statistics, and Mathematics Journals**
▷ **Methodology Articles in Medical, Imaging, and Other Areas**
◇ **Application Articles Published in Medical, Imaging, and Other Area Journals**

58. ▷ T. Kent, V. Sinha, **E. Ceyhan**, L. Sura, E. Yekeler, M.D. Weiss, M. Albayram, **Deep cerebral venous abnormalities in premature babies with GMH-IVH: A single-centre retrospective study**, *BMJ Paediatrics Open*, 7(1):e001853, May 2023.

57. * **E. Ceyhan**, J.C. Wierman, and P. Xiang. **Law of large numbers for a two-dimensional class cover problem**. *ESAIM: Probability and Statistics*, 25:376-407, June 2021.

56. * S. Bahadır and **E. Ceyhan**. **A classification of isomorphism-invariant random digraphs**. *Contributions to Discrete Mathematics*, 15(3): 43-74, December 2020.

55. * S. Bahadır and **E. Ceyhan**. **On the number of weakly connected subdigraphs in random kNN digraphs**. *Discrete & Computational Geometry*, 65(1): 116-142, January 2021.

54. * A. Manukyan and **E. Ceyhan**. **Classification using proximity catch digraphs**. *Machine Learning*, 109(4): 761-811, May 2020.

53. * E. Ceyhan. **Domination number of an interval catch digraph family and its use for testing uniformity**. *Statistics*, 54(2): 310-339, January 2020.

52. * E. Ceyhan. **A contingency table approach based on nearest neighbor relations for testing self and mixed correspondence**. *SORT - Statistics and Operations Research Transactions*, 42(2):125-158, July-December 2018.

51. ◇ G.G. Singh, V. Farjalla, B. Chen, A. Pelling, **E. Ceyhan**, M. Dominik, E. Alisic, J. Kerr, N. Selin, G. Bassioni, E. Bennett, A. Kemp, and K.M. Chan. **Researcher engagement in policy deemed societally beneficial yet unrewarded.** *Frontiers in Ecology and the Environment*, 17(7): 375-382, August 2019 (also available as *PeerJ Preprints* 6:e26672v2 https://doi.org/10.7287/peerj.preprints.26672v2).

50. * S. Bahadir and **E. Ceyhan**. **On the Number of reflexive and shared nearest neighbor pairs in one-dimensional uniform data**. *Probability and Mathematical Statistics*, 38(1):123-137, July 2018.

49. * **Cell-Specific and post-hoc spatial clustering tests based on nearest neighbor contingency tables**. *Journal of the Korean Statistical Society*, 46(2):219-245, June 2017.

48. ▷ **E. Ceyhan**, T. Nishino, K.N. Botteron, M.I. Miller, and J.T. Ratnanather. **Analysis of cortical morphometric variability using labeled cortical distance maps**. *Statistics and Its Interface*, 10(2), 313-341, 2017.

47. * **E. Ceyhan** and S. Bahadir. **Nearest neighbor methods for testing reflexivity**. *Environmental and Ecological Statistics*, 24(1):69-108, March 2017.

46. * E. Ceyhan. **Density of a random interval catch digraph family and its use for testing uniformity**. *REVSTAT*, 14(4):349-394, October 2016.

45. * A. Manukyan and **E. Ceyhan**. **Classification of imbalanced data with a geometric digraph family**. *Journal of Machine Learning Research*, 17(189):1-40, October 2016.

44. * E. Ceyhan. **Edge density of new graph types based on a random digraph family**. *Statistical Methodology*, 33: 31-54, December 2016.

43. ◇ M. Asik, F. Tufan, T.S. Akpinar, N. Akalin, **E. Ceyhan**, N. Tunc, Z.I. Hasiloglu, M. R. Altiparmak, T. Ecder, and S. Albayram. **Frequency of nerve root sleeve cysts in autosomal dominant polycystic kidney disease**. *Balkan Medical Journal*, 33(6):652-656, November 2016.

42. ◇ O. Erdem, **E. Ceyhan**, and Y. Varli. **A new correlation coefficient for bivariate time-series data**. *Physica A: Statistical Mechanics and its Applications*, 414:274-284, November 2014.

41. ◇ J.T. Ratnanather, S. Cebron, **E. Ceyhan**, E. Postell, D.V. Pisano, C.B. Poynton, B. Crocker, N.A. Honeycutt, P.B. Mahon, and P.E. Barta. **Morphometric differences in planum temporale in schizophrenia and bipolar disorder revealed by statistical analysis of labeled cortical depth maps**. *Frontiers in Psychiatry*, 5:94, August 2014.

40. * E. Ceyhan. **Simulation and characterization of multi-class spatial patterns from stochastic point processes of randomness, clustering and regularity**. *Stochastic Environmental Research and Risk Assessment (SERRA)*, 28(5):1277-1306, July 2014.

39. * E. Ceyhan. **Segregation indices for disease clustering**. *Statistics in Medicine*, 33(10):1662-1684, May 2014.

38. * E. Ceyhan.**Comparison of relative density of two random geometric digraph families in testing spatial clustering**. *TEST*, 23(1):100-134, March 2014.

37. * E. Ceyhan. **Testing spatial symmetry using contingency tables based on nearest neighbor relations**. *The Scientific World Journal*, Volume 2014, Article ID 698296, January 2014.

36. ◇ M. Takayanagi, J. Wentz, Y. Takayanagi, D.J. Schretlen, **E. Ceyhan**, L. Wang, M. Suzuki, A. Sawa, P.E. Barta, J.T. Ratnanather, and N.G. Cascella. **Reduced anterior cingulate gray matter volume and thickness in subjects with deficit schizophrenia**. *Schizophrenia Research*, 150(2):484-490, November 2013.

35. ◇ J.T. Ratnanather, C.B. Poynton, D.V. Pisano, B. Crocker, E. Postell, S. Cebron, **E. Ceyhan**, N.A. Honeycutt, P.B. Mahon, and P.E. Barta. **Morphometry of superior temporal gyrus and planum temporale in schizophrenia and psychotic bipolar disorder**. *Schizophrenia Research*, 150(2):476-483, November 2013.

34. ▷ **E. Ceyhan**, T. Nishino, D. Alexopoulos, R.D. Todd, K.N. Botteron, M.I. Miller, and J.T. Ratnanather. **Censoring distances based on labeled cortical distance maps in cortical morphometry**. *Frontiers in Neurology*, vol 4, article 155: 1-16, October 2013.

33. ▷ **E. Ceyhan**, K. Ertugay, and S. Duzgun. **Exploratory and inferential methods for spatio-temporal analysis of residential fire clustering in urban areas**. *Fire Safety Journal*, 58:226-239, May 2013.

32. ◇ A. Coskun, **E. Ceyhan**, T.C. Inal, M. Serteser, and I. Unsal. **The comparison of parametric and nonparametric bootstrap methods for reference interval computation in small sample size groups**. *Accreditation and Quality Assurance*, 18(1):51-60, January 2013.

31. * V. Aksakallı and **E. Ceyhan**. **Optimal obstacle placement with disambiguations**. *Annals of Applied Statistics*, 6(4):1730-1774, December 2012.

30. ◇ S. Ünel, M. Yılmaz, S. Albayram, Z. Işık, **E. Ceyhan**, H. Işıldak, M. Teixido, Y. Savaş, and A. Kiris. **Anastomoses of the vestibular, cochlear, and facial nerves**. *Journal of Craniofacial Surgery*, 23(5):1358-1361, September 2012.

29. ▷ **E. Ceyhan**, M.F. Beg, C. Ceritoğlu, L. Wang, J.C. Morris, J.G. Csernansky, M.I. Miller, and J.T. Ratnanather. **Metric distances between hippocampal shapes indicate different rates of change over time in nondemented and demented subjects**. *Current Alzheimer Research*, 9(8) : 972-981, October 2012.

28. ◇ **E. Ceyhan**, F. Xu, U.A. Gürkan, A.E. Emre, E.S. Turalı, R. El Assal, A. Açıkgenç, C.M. Wu, and U. Demirci. **Prediction and control of number of cells in microdroplets by stochastic modeling**. *Lab on a Chip*, 12(22):4884-4893, October 2012.

27. * E. Ceyhan. **The distribution of the relative arc density of a family of interval catch digraph based on uniform data**. *Metrika*, 75(6):761-793, July 2012.

26. * E. Ceyhan. **An investigation of new graph invariants related to the domination number of random proximity catch digraphs**. *Methodology and Computing in Applied Probability*, 14(2): 299-334, April 2012.

25. ◇ S. Ünel, M. Yılmaz, S. Albayram, A. Kiris, Z. Işık, **E. Ceyhan**, H. Işıldak, Y. Savaş, and Z. Keser. **A radiological study on the topographical relationships between the vestibular, cochlear and facial nerves**. *The Eurasian Journal of Medicine*, 44(1):6-12, January 2012.

24. ◇ S.J. Moon, **E. Ceyhan**, U.A. Gürkan, and U. Demirci. **Statistical modeling of single target cell encapsulation**. *PLoS ONE*, 6(7): e21580. doi:10.1371/journal.pone.0021580, July 2011.

23. ◇ S. Albayram, S. Saip, Z.I. Haşıloğlu, M. Teke, **E. Ceyhan**, M. Tütüncü, H. Selçuk, A. Kına, and A. Siva. **Evaluation of parenchymal neuro-Behçet disease by using susceptibility-weighted imaging**. *American Journal of Neuroradiology*, 32(6):1050-1055, June-July 2011.

22. ▷ **E. Ceyhan**, M.F. Beg, C. Ceritoğlu, L. Wang, J.C. Morris. J.G. Csernansky, M.I. Miller, and J.T. Ratnanather, **Quantization and analysis of hippocampal morphometric changes due to dementia of Alzheimer type using metric distances based on large deformation diffeomorphic metric mapping**. *Computerized Medical Imaging and Graphics*, 35(4): 275-293, April 2011.

21. * E. Ceyhan. **Spatial clustering tests based on domination number of a new family of random digraphs**. *Communications in Statistics - Theory and Methods*, 40(8): 1363-1395, March 2011.

20. ▷ **E. Ceyhan**, M. Hosakere, T. Nishino, J. Alexopoulos, R.D. Todd, K.N. Botteron, M.I. Miller, and J.T. Ratnanather. **Statistical analysis of cortical morphometrics using pooled distances based on labeled cortical distance maps**. *Journal of Mathematical Imaging and Vision*, 40(1): 20-35, March 2011.

19. ◇ Z.I. Haşıloğlu, S. Albayram, H. Selçuk, **E. Ceyhan**, S. Delil, B. Arkan, and L. Baskoy, **Cerebral microhemorrhages detected by susceptibility-weighted imaging in amateur boxers**. *American Journal of Neuroradiology*, 32(1):99-102, January 2011.

18. * E. Ceyhan. **Extension of one-dimensional proximity regions to higher dimensions**. *Computational Geometry: Theory and Applications*, 43(9):721-748, November 2010 (This article is also featured at http://www.verticalnews.com.)

17. * E. Ceyhan. **On the use of nearest neighbor contingency tables for testing spatial segregation**. *Environmental and Ecological Statistics*, 17(3), 247-282, September 2010.

16. * E. Ceyhan. **Directional clustering tests based on nearest neighbour contingency tables**. *Journal of Nonparametric Statistics*, 22(5):599-616, July 2010.

15. * E. Ceyhan. **Exact inference for testing spatial patterns by nearest neighbor contingency tables**. *Journal of Probability and Statistical Sciences*, 8(1):45-68, February 2010.

14. * E. Ceyhan. **New tests of spatial segregation based on nearest neighbor contingency tables**. *Scandinavian Journal of Statistics*, 37(1):147-165, February 2010.

13. * **E. Ceyhan** and C.L. Goad, **A comparison of analysis of covariate-adjusted residuals and analysis of covariance**. *Communications in Statistics — Simulation and Computation*, 38(10):2019-2038, November 2009.

12. * E. Ceyhan. **Overall and pairwise segregation tests based on nearest neighbor contingency tables**. *Computational Statistics & Data Analysis*, 53(8):2786-2808, June 2009.

11. * E. Ceyhan. **Class-specific tests of segregation based on nearest neighbor contingency tables**. *Statistica Neerlandica*, 63(2):149-182, May 2009.

10. * E. Ceyhan. **The distribution of the domination number of class cover catch digraphs for non-uniform one-dimensional data**. *Discrete Mathematics*, 308(23):5376-5393, December 2008.

9. ◇ N. Penumetcha, B. Jedynak, M. Hosakere, **E. Ceyhan**, K.N. Botteron, and J.T. Ratnanather. **Segmentation of arteries in MPRAGE images of the ventral medial prefrontal cortex**. *Computerized Medical Imaging and Graphics*, 32(1):36-43, January 2008.

8. ◇ M. Halaç, S. Albayram, **E. Ceyhan**, H. Özer, I. Doğan, S. Sağer, and I. Uslu. **Is early bladder activity in radionuclide cisternography an indirect sign of spontaneous intracranial hypotension or sequence of lumbar puncture?** *Clinical Nuclear Medicine*, 32(11):850-853, November 2007.

7. ◇ M. Kantarcı, N. Ceviz, S. Sevimli, U. Bayraktutan, **E. Ceyhan**, C. Duran, A. Karaman, I. Durur, and A. Okur. **Diagnostic performance of multidetector computed tomography for detecting aorto- ostial lesions compared with catheter coronary angiography: Multidetector computed tomography coronary angiography is superior to catheter angiography in detection of aorto-ostial lesions**. *Journal of Computer Assisted Tomography*, 31(4), 595-599, July/August 2007.

6. ◇ M. Zhi, J.T. Ratnanather, **E. Ceyhan**, A.S. Popel, and W.E. Brownell. **Hypotonic swelling of salicylate-treated cochlear outer hair cells**. *Hearing Research*, 228(1-2):95-104, June 2007.

5. * **E. Ceyhan**, C.E. Priebe, and D.J. Marchette. **A new family of random graphs for testing spatial segregation**. *Canadian Journal of Statistics*, 35(1):27-50, February 2007.

4. * **E. Ceyhan** and C.E. Priebe. **On the distribution of the domination number of a new family of parameterized random digraphs**. *Model Assisted Statistics and Applications*, 1(4):231-255, 2006.

3. ◇ F. Alper, M. Akgün, M. Kantarcı, A. Eroğlu, **E. Ceyhan**, O. Onbaş, C. Duran, and A. Okur. **Demonstration of vascular abnormalities compressing esophagus by MDCT: Special focus on dysphagia lusoria**. *European Journal of Radiology*, 59(1):82-87, July 2006.

2. * **E. Ceyhan**, C.E. Priebe, and J.C. Wierman. **Relative density of the random r-factor proximity catch digraphs for testing spatial patterns of segregation and association**. *Computational Statistics & Data Analysis*, 50(8):1925-1964, April 2006.

1. * **E. Ceyhan** and C.E. Priebe. **The use of domination number of a random proximity catch digraph for testing spatial patterns of segregation and association**. *Statistics & Probability Letters*, 73(1), 37-50, June 2005.

Some of the above articles and associated technical reports are posted at arXiv.org (http://front.math.ucdavis.edu/);
The articles # 7, 28, 29, 33, 35, 36, 40, 42, 44 are featured in the BUTTER Platform of NewsRx service.

DISCUSSION NOTES

4. E. Ceyhan. Discussion on the article "How to find an appropriate clustering for mixed-type variables with application to socio-economic stratification, C. Hennig and T. F. Liao". *Journal of Royal Statistical Society, Series C (Applied Statistics)*, 62(3): 345, May 2013.

3. E. Ceyhan. Discussion on the article "Catching up faster by switching sooner: a predictive approach to adaptive estimation with an application to the AIC-BIC dilemma, T. van Erven and Peter Grünwald". *Journal of Royal Statistical Society, Series B (Statistical Methodology)*, 74(3): 403, June 2012.

2. E. Ceyhan. Discussion on the article "Optimum design of experiments for statistical inference, S. G. Gilmour and L. A. Trinca". *Journal of Royal Statistical Society, Series C (Applied Statistics)*, 61(3): 379-380, May 2012.

1. E. Ceyhan. Discussion on the article "Vignettes and health systems responsiveness in cross-country comparative analyses, N. Rice, S. Robone, and P.C. Smith". *Journal of Royal Statistical Society, Series A (Statistics in Society)*, 175(2): 361-362, April 2012.

TECHNICAL MONOGRAPHS

2. E. Ceyhan. **Proximity Catch Digraphs: Auxiliary Tools, Properties, and Applications (based on PhD Thesis)**, VDM Verlag, Saarbrücken, Germany. ISBN:978-3-639-19063-2 (September 27, 2009).

1. E. Ceyhan. **Correcting for Covariates: Ratios, Residual Analysis, and ANCOVA (based on MS Thesis)**, VDM Verlag, Saarbrücken, Germany. ISBN:978-3-639-19607-8 (September 1, 2009).

PROFESSIONAL SKILLS

◇ **Languages:** Turkish (native), English (fluent).

◇ **Computer skills:** Proficient in personal computers
statistical software: R, SAS, and Spark (with R)
interactive mathematical software: Maple, Mathematica
programming languages: familiar with C++, Pascal, and web design with HTML
operating systems: MS-DOS, Window 95 & 98, XP, Linux

GRADUATE STUDENT SUPERVISION

◇ De Xing, MS in Statistics (2021), title: An analysis of effect of diet, masu salmon elovl2 transgene and their interaction on fatty acid composition in channel catfish, Auburn University, Auburn, AL.

◇ Minghong Jian, MS in Statistics (2021), title: Statistical Analysis of SAC Solder Joints' Fatigue and Damage Accumulation, Auburn University, Auburn, AL.

◇ Polat Charyyev, PhD in Mathematics (2017), title: The Optimal Obstacle Placement With Disambiguation Problem, Koç University, Istanbul, Turkey.

◇ Artur Manukyan, PhD in Computational Science and Engineering (2016), title: Statistical Learning with Proximity Catch Digraphs, Koç University, Istanbul, Turkey.

◇ Selim Bahadir, PhD in Mathematics (2016), title: A Probabilistic Investigation of Invariants of NN-type Graphs, Koç University, Istanbul, Turkey.

◇ Enes Özel, MS in Mathematics (2011), title: Extensions of Domination Number and Their Distribution for Random Interval Catch Digraph Families (Math, 2011), Koç University, Istanbul, Turkey.

◇ Committee Member for PhD of Minghong Jian (Ind. & Sys Eng., 2021), PhD of Tagbo Aroh, (Math & Stat, 2023), PhD of Aditya Tadakaluru, (CSSE, 2023), Auburn University, Auburn, AL.

◇ Committee Member for MS of Hongyang Wu (Stat, 2021), Todd Steury (Stat, 2022), Wanyu Zhang (Stat, 2022), Jinhai Wang (Stat, 2022), Jared Thacker (Stat, 2023), MPS of Jianfeng Zhang (Stat, 2021), Auburn University, Auburn, AL.

◇ Committee Member for MS of Emre Ekinci (Econ., 2007), Berk Yavuzoğlu (Econ., 2008), Mehmet Gümüş (Math, 2011), Koç University, Istanbul, Turkey.

OTHER PUBLICATIONS

Conference Presentations Published in the Proceedings

26. **E. Ceyhan** and P. Charyyev. **Comparison of various algorithms in optimal obstacle placement with disambiguation problem**. International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, NC, October 7-9, 2022.

25. A. Pearson and **E. Ceyhan**. **Domain-dependent classification with geometric digraphs**. Joint Statistical Meeting, Washington DC, August 6-11, 2022.

24. A. Manukyan and **E. Ceyhan**. **Statistical learning using geometric digraph families**. International Conference on Information Complexity and Statistical Modeling in High Dimensions with Applications, Cappadocia, Turkey, May 18-21, 2016.

23. V. Aksakalli, A.F. Alkaya, D. Oz, R. Algin, and **E. Ceyhan**. **Performance evaluation of an exact method for the obstacle neutralization problem**. Proceedings of the Sixth International Conference on Industrial Engineering and Operations Management, Kuala Lumpur, Malaysia, March 8-10, 2016.

22. E. Ceyhan. **Pairwise and other post-hoc tests of spatial clustering based on NNCTs**. Proceedings of the 61st World Statistics Congress, Rio de Janeiro, Brazil, July 26-31, 2015.

21. A. Manukyan and **E. Ceyhan**. **An assessment of CCP approach in statistical learning**. Proceedings of the 61st World Statistics Congress, Rio de Janeiro, Brazil, July 26-31, 2015.

20. S. Bahadir and **E. Ceyhan**. **k-Nearest neighbor contingency table analysis for several classes**. European Meeting of Statisticians, Amsterdam, Netherlands, July 6-10, 2015.

19. P. Charyyev, **E. Ceyhan**, and V. Aksakalli. **Optimal obstacle placement with disambiguation problem**. European Meeting of Statisticians, Amsterdam, Netherlands, July 6-10, 2015.

18. E. Ceyhan. Invited Talk, **Indices of segregation for disease clustering**. IASSL 2014 International Conference: Statistics and Society in the New Information Age: Challenges and Opportunities, Colombo, Sri Lanka, December 28-30, 2014.

17. E. Ceyhan. **Testing spatial clustering using relative density of two random geometric digraph families**. Proceedings of the 2013 World Statistics Congress, Hong Kong, China, August 25-30, 2013.

16. V. Aksakalli and **E. Ceyhan**. **The use of spatial graphs for optimal obstacle placement: A study on impact of the clutter spatial distribution**. Proceedings of the 2013 World Statistics Congress, Hong Kong, China, August 25-30, 2013.

15. S. Albayram, S. Saip, Z.I. Haşıloğlu, M. Teke, **E. Ceyhan**, M. Tütüncü, H. Selçuk, A. Kına, and A. Siva. **Susceptibility ağırlıklı görüntüleme ile parenkimal nöro-Behçet hastalığının değerlendirilmesi**. Proceedings of the 46th National Neurology Congress, Antalya, Turkey, December 4-9, 2010.

14. S. Ünel, S. Albayram, **E. Ceyhan**, N. Tunç, S. Aydın, Y. Savaş, A. Kırış, Z. Işık, and Ş. Odabaşı. **Iç kulak kanalında ve serebellopontin mesafede 7. ve 8. sinirler arasındaki anastomozların manyetik rezonans görüntülemede 3b balanced fast field eko sekansı ile değerlendirilmesi**. Proceedings of the Türkrad 2010, 31st National Radiology Congress, Antalya, Turkey, November 7-12, 2010.

13. S. Albayram, M. Aşık, **E. Ceyhan**, Z. Işık, F. Tufan, N. Akalın, N. Tunç, H. Özer, M. Altıparmak, and T. Ecder. **Frequency of nerve root sleeve cysts in autosomal dominant polycystic kidney disease**. Proceedings of the ASNR 48th Annual Meeting & NER Foundation Symposium, Boston, MA, USA, May 15-20, 2010.

12. S. Albayram, M. Akan, **E. Ceyhan**, D. Gürbüz, Y. Savaş, and A. Kırış. **Beyin iskemisinin hiperakut, akut ve subakut evrelerinde difüzyon tensor değişikliklerinin değerlendirilmesi (An evaluation of diffusion tensor changes in the brain ischemia in hyperacute, acute, and subacute stages)**. Proceedings of the Türkrad 2009, 30th National Radiology Congress, Antalya, Turkey, November 4-9, 2009 [*won the second best oral presentation award among 1500 presentations*].

11. **E. Ceyhan**, C.E. Priebe, and D.J. Marchette. **The use of central similarity proximity catch digraphs for testing multivariate spatial patterns**. 57th Session of the ISI, Durban, South Africa, August 16-22, 2009.

10. E. Ceyhan. **Çok sınıflı uzaysal desen testlerinin ekolojik veri analizinde uygulanması (Application of multivariate spatial pattern tests for ecological data analysis)**. Proceedings of the 18th Statistical Research Symposium simultaneously held at main TurkStat centers in Turkey, May 7-8, 2009.

9. E. Ceyhan. **QR-adjustment for clustering tests based on nearest neighbor contingency tables**. HDM-2008 International Conference on Multivariate Statistical Modelling & High Dimensional Data Mining, Kayseri, Turkey, June 19-23, 2008.

8. E. Ceyhan. **Tekli uzaysal desen testlerinin ekolojik veri analizinde uygulanması (Application of univariate spatial pattern tests for ecological data analysis)**. Proceedings of the 17th Statistical Research Symposium simultaneously held at main TurkStat centers in Turkey, May 8-9, 2008.

7. **E. Ceyhan**, R.Ç. Ölken, L. Fong, T.N. Tasky, M.K. Hurdal, M.F. Beg, M.E. Martone, and J.T. Ratnanather. **Modeling metric distances of dendrite spines of mice based on morphometric measures**. Proceedings of the International Symposium on Health Informatics and Bioinformatics (HIBIT2007), Antalya, Turkey, April 29-May 2, 2007.

6. E. Ceyhan. **Edge correction for cell- and class-specific tests of segregation based on nearest neighbor contingency tables**. Proceedings of the International Conference on Environment: Survival and Sustainability (ESS2007), Nicosia, Cyprus, February 19-24, 2007.

5. E. Ceyhan. **Edge correction for segregation tests based on nearest neighbor contingency tables**. Proceedings of the Applied Statistics 2007 International Conference(AS2007), Ribno, Bled, Slovenia, September 23-26, 2007.

4. E. Ceyhan. **Edge correction for exact tests on nearest neighbor contingency tables for testing spatial segregation**. Proceedings of the Joint Statistical Meeting, Section on Statistics and the Environment, American Statistical Association, Salt Lake City, UT, USA, July 29-August 2, 2007.

3. **E. Ceyhan**, M. Hosakere, T. Nishino, J. Alexopoulos, R.D. Todd, K.N. Botteron, M.I. Miller, and J.T. Ratnanather. **Statistical analysis of morphometric measures based on labeled cortical distance maps**. Proceedings of Fifth International Symposium on Image and Signal Processing and Analysis, Istanbul, Turkey, September 27-29, 2007.

2. **E. Ceyhan**, L. Fong, T.N. Tasky, M.K. Hurdal, M.F. Beg, M.E. Martone, and J.T. Ratnanather. **Type-specific analysis of morphometry of dendrite spines of mice**. Proceedings of Fifth International Symposium on Image and Signal Processing and Analysis, Istanbul, Turkey, September 27-29, 2007.

1. **E. Ceyhan** and C.E. Priebe. **Central similarity proximity maps in Delaunay tessellations**. Proceedings of the Joint Statistical Meeting, the Statistical Computing Section, American Statistical Association, San Francisco, CA, USA, August 3-7, 2003.

Talks and Conference Presentations (not Published in the Proceedings)

35. F.L. Bayisa, C.L. Seals, H.J. Leeper, **E. Ceyhan**, and T.D. Steury, (2023). **Home Range and Spatial interaction modelling of black bears** [also presented as a poster]. Symposium on Data Science and Statistics (SDSS2023), St. Louis, Missouri, May 23-26, 2023.
34. T. Kent, V. Sinha, **E. Ceyhan**, L. Sura, M.D. Weiss, M.S. Albayram. **Deep Cerebral Venous Anomalies in Premature Babies with GMH-IVH: an SWI MRI retrospective study**, American Society of Neuroradiology 2023 Annual Meeting, ASNR23, Chicago, IL, April 29-May 3.
33. L. Mahalingappa, N. Polat, and **E. Ceyhan**, **Evolution of quantitative methodologies in SLA research: Snapshot of 20 years across three major journals**. American Association for Applied Linguistics (AAAL) Annual Conference. Portland, OR, March 17-21.
32. SMAC Talk, **Imbalanced Classification based on a Geometric Graph Family**, Department of Statistics, Penn State, State College, PA, March 19, 2021.
31. Neuroimaging Journal Club Seminar, **Two algorithms to quantify and analyze brain morphometry**, February 21, 2020.
30. Graduate Student Seminar, **Two algorithms to quantify brain morphometry and its analysis**, March 18, 2020.
29. Graduate Student Seminar, **Optimal obstacle placement with disambiguations in presence of uniform clutter**, October 7, 2020.
28. IPS Presentation, **Analysis of cortical thickness with medical imaging data of very high and varying dimensions per subject**. 9th Conference of the Asian Regional Section of the IASC (IASC-ARS 2015), Singapore, December 17-19, 2015.
27. S. Bahadir and **E. Ceyhan**, **Classification of isomorphism-invariant random digraphs**. IMBM Workshop on Graph Theory and Its Applications, Istanbul, Turkey, November 27-28, 2015.
26. Invited Talk, **Analysis of high dimensional brain imaging data: Challenges and possible solutions**. IWSDM 2015, Istanbul, Turkey, July 21-22, 2015.
25. Department Seminar, **Domination number of a family of random geometric digraphs and its application to spatial clustering**, Department of Applied Mathematics and Statistics, Johns Hopkins University, Baltimore, MD, USA, November 7, 2013.
24. **A new family of random geometric graphs: Theory and applications** [also presented as a poster] TWAS 12th General Conference and 23rd General Meeting, Tianjin, China, September 18-21, 2012.
23. Invited Talk, **Quantization and analysis of morphometric changes in brain tissues due to neuro-degenerative diseases**. Third International Workshop on Statistical Mechanics and Dynamical Systems, Turunç/Marmaris, Turkey, August 27-September 2, 2012.
22. V. Aksakallı and **E. Ceyhan**, **Optimal obstacle clustering patterns with disambiguations**, 8th World Congress in Probability and Statistics, Istanbul, Turkey, July 9-14, 2012.

21. **Statistical tests, univariate analysis, parametric tests, nonparametric tests, and ANOVA methods for medical practice**, Presented at the Summer Course on Research Methodology in Medical Sciences, Koç University, Istanbul, Turkey, July 19-23, 2010; July 18-22, 2011.
20. **Relative density of random proximity catch digraphs: Theory and applications**, Department of Industrial Engineering, Çankaya University, Ankara, Turkey, December 24, 2010.
19. **Domination number of random proximity catch digraphs: Theory and applications (in Turkish "Yakınlık yönlü çizgelerinin baskınlık sayısı: Teori ve uygulamalar"**), IMBM Istanbul Center for Mathematical Sciences— Istanbul Discrete Mathematics Meetings, Boğaziçi University, Istanbul, Turkey, November 26, 2010.
18. **The asymptotic distribution of the domination number of a geometric digraph family (in Turkish "Geometrik bir yönlü çizge ailesinin baskınlık sayısının asimptotik dağılımı"**), Department of Mathematical Engineering, Istanbul Technical University, Istanbul, Turkey, November 12, 2010.
17. **The distribution of the domination number of a family of random catch digraphs based on one-dimensional data**, The Fifth International Workshop in Applied Probability (IWAP 2010), Universidad Carlos III de Madrid, Colmenarejo Campus, Madrid, Spain, July 5-8, 2010.
16. Mathematics Seminar, **A graph invariant of a random digraph family for testing multivariate spatial interaction**, Department of Mathematics, Izmir University of Economics, Izmir, Turkey, May 7, 2010.
15. Graduate Learning Seminar, **A short synopsis on random graphs, spatial point patterns, and image analysis**, Department of Mathematics, Koç University, November 2, 2009.
14. Invited Seminar, **Some nearest neighbor methods for detection of disease clustering**, Session ES28, Small area estimation 1, 2nd International Conference of the ERCIM Working Group on Computing & Statistics (ERCIM 09), Limassol, Cyprus, October 29-31, 2009.
13. Statistics Seminar, **Random proximity catch digraphs: Theory and applications - II**, Department of Statistics, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, September 25, 2009.
12. Probability Seminar, **Random proximity catch digraphs: Theory and applications - I**, Institute of Mathematics and Statistics, Universidade de São Paulo, Sao Paulo, Brazil, September 24, 2009.
11. S. Albayram, M. Akan, **E. Ceyhan**, D. Gürbüz, and Y. Savaş. **Evaluation of the anisotropy of the water diffusion tensor in hyperacute, acute and subacute stages of brain ischemia**. 47th Meeting of American Society of Neuroradiology (ASNR), Vancouver, British Columbia, Canada, May 16-21, 2009.
10. Mathematics Seminar, **Rassal yakınlık çizgeleri ve uygulamaları**, Süleyman Demirel University, Isparta, Turkey, March 3, 2009.
9. **The asymptotic distribution of the domination number of proximity catch digraphs (Orantısal kenar yakınsal yönlü çizgelerin baskınlık sayısının asimptotik dağılımının hesaplanması)**. 21st National Mathematics Symposium, Istanbul, Turkey, September 1-4, 2008.
8. **The asymptotic distribution of the domination number of proportional edge proximity catch digraphs**. The 7th World Congress in Probability and Statistics, Singapore, July 14-19, 2008.
7. **Extension of one-dimensional proximity maps to higher dimensions (Tek-boyutlu yakınlık fonksiyonlarının daha üst boyutlara genelleştirilmesi)**. 6th National Geometry Symposium, Bursa, Turkey, July 1-4, 2008.
6. Invited Talk, **Spatial point pattern analysis for astronomical data**. 15th Istanbul Statistical Physics Symposium, Istanbul, Turkey, June 19-21, 2008.
5. Sci-Tech Seminar, **Applying mathematics in quantifying (measuring) the morphometry (shape and size) of brain tissues**, Koç University, October 31, 2006.
4. M. Hosakere and **E. Ceyhan**, Invited Talk, **Analysis of ventral medial prefrontal cortex metrics for depression in twins** at CIS Seminar Series, Johns Hopkins University, March 1, 2005.
3. Science-Math Seminar, **A parameterized family of proximity catch digraphs in Delaunay tessellations and its use in testing spatial point patterns**, Koç University, February 8, 2005.
2. Invited Talk, **The relative density of r-factor proportional-edge proximity catch digraphs and its application to spatial point patterns** at Statistics Colloquium, George Mason University, January 28, 2005.
1. Student Seminar, **An investigation of proximity catch digraphs in Delaunay tessellations**, Johns Hopkins University, October 1, 2004.

Posters (mostly on Medical Imaging)

25. T. Kent, V. Sinha, **E. Ceyhan**, L. Sura, E. Yekeler, M.D. Weiss, M.S. Albayram. **Deep Cerebral Venous Abnormalities in Premature Babies with GMH-IVH: an SWI MRI Retrospective Study.** 13th Annual UF College of Medicine Celebration of Research, February 27-28, 2023.
24. A. Pearson and **E. Ceyhan**. **Adaptive and hybrid classification with domain-dependent digraphs.** Alabama-Mississippi ASA Chapter Annual Conference, Jackson, MS, April 1, 2022.
23. A. Pearson and **E. Ceyhan**. **A network-based statistical learning method robust to class imbalance.** Auburn University Postdoctoral Research Symposium, Auburn, AL, September 2, 2021.
22. E. Ceyhan. **Pattern recognition with parameterized random geometric graphs.** TWAS 25th General Meeting, Muscat, Oman, October 26-29, 2014.
21. E. Ceyhan. **New spatial segregation tests based on nearest neighbor contingency tables**. VI International Workshop on Spatio-Temporal Modelling (METMAVI), Guimarães, Portugal, September 12-14, 2012.
20. E. Özel and **E. Ceyhan**. **Extensions of domination number and their distribution for random interval catch digraph families**. 8th World Congress in Probability and Statistics, Istanbul, Turkey, July 9-14, 2012.
19. E. Özel and **E. Ceyhan**, **The distribution of fractional domination number of a random digraph family based on one-dimensional uniform data**. The Sixth International Conference on Probability and Statistics (PROBASTAT 2011), Bratislava, Slovakia, July 4-8, 2011.
18. Y. Varlı, **E. Ceyhan**, O. Erdem. **A new correlation coefficient for bivariate time-series data**. 3rd International Conference of the ERCIM Working Group on Computing & Statistics (ERCIM 10), London, UK, December 10-12, 2010. [Also presented at 18th Annual Conference of the Multinational Finance Society, Rome, Italy, June 26-29, 2011].
17. Poster Presentation, S. Ünel, S. Albayram, **E. Ceyhan**, M. Aşık, S. Aydın, Y. Savaş, A. Kırış, Z. Işık, and Ş. Odabaşı. **Iç kulak kanalında ve serebellopontin mesafede yedinci ve sekizinci kraniyal sinirlerin topografik ilişkilerinin manyetik rezonans görüntülemede 3B balanced fast field eko sekansıyla değerlendirilmesi**. Türkrad 2010, 31st National Radiology Congress, Antalya, Turkey, November 7-12, 2010.
16. J. Sohn, B. Crocker, D.V. Pisano, C.B. Poynton, N.A. Honeycutt, **E. Ceyhan**, P.E. Barta, and J.T. Ratnanather. **Structural changes of temporal lobe regions in bipolar disorder and schizophrenia patients**. 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain, June 6-10, 2010.
15. R. Pribik, K. Alpert, N. Mohan, J. Sohn, C.E. Priebe, **E. Ceyhan**, E. Cochran, W. Wen, M.F. Beg, L. Wang, and J.T. Ratnanather. **Automated labeled cortical distance mapping pipeline for analyzing regional structures**. 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain, June 6-10, 2010.
14. S. Ünel, S. Albayram, **E. Ceyhan**, S. Aydın, D. Gürbüz, N. Hatipoğlu, Y. Savaş, S. Odabaşı, and A. Kırıs. **Determining the topographical relationship of the seventh and eighth nerves in the cerebellopontin cistern and internal auditory canal in living humans by using 3D gradient-echo sequence constructive interference in steady-state MR imaging**. Proceedings of the ASNR 48th Annual Meeting & NER Foundation Symposium, Boston, MA, USA, May 15-20, 2010.
13. S. Ünel, S. Albayram, **E. Ceyhan**, S. Aydın, D. Gürbüz, N. Hatipoğlu, Y. Savaş, S. Odabaşı, and A. Kırıs. **Determining the anastomosis of the nerves in the internal auditory canal and cerellopontin cistern in living humans by using 3D gradient-echo sequence constructive interference steady-state MR imaging**. Proceedings of the ASNR 48th Annual Meeting & NER Foundation Symposium, Boston, MA, USA, May 15-20, 2010.
12. S. Aydın, S. Albayram, **E. Ceyhan**, D. Gürbüz, S. Ünel, F. Kantarcı, Y. Savaş, and A. Kırıs. **Quantitative and qualitative comparison of 0.5M gadoterate meglumine and 1M gadobutrol in contrast-enhanced MR angiography of carotid arteries**. Proceedings of the ASNR (American Society of Neuroradiology) 48th Annual Meeting & NER (Neuroradiology Education and Research) Foundation Symposium, Boston, MA, USA, May 15-20, 2010.
11. E. Ceyhan. **Testing the presence of the bacteria h. influenzae in children after drug treatments using generalized linear mixed models**. IASC-ERS Summer School"Computational Aspects in Environmental Statistics", Pamporovo, Bulgaria, September 11, 2009.
10. E. Ceyhan. **New multi-class and directional clustering tests based on nearest neighbor contingency tables**. Also published in the Proceedings of the International Conference on Nonparametric Inference (ISNI2008), Vigo, Galicia, Spain, November 5-7, 2008.
9. **E. Ceyhan**, C.B. Poynton, A. Qui, P.E. Barta, and M.I. Miller. **Statistical analysis of gender, laterality, and diagnosis effect on planum temporale**. 12th Annual Meeting of the Organization for Human Brain Mapping, Florence, Italy, June 11-15, 2006.

8. G.M. Aldridge, J.T. Ratnanather, M.E. Martone, M. Terada, M.F. Beg, L. Fong, **E. Ceyhan**, A.E. Kolasny, T.J.A. Brown, E.L. Cochran, S.J. Tang, D.V. Pisano, M. Vaillant, M.K. Hurdal, J.D. Churchill, W.T. Greenough, M.I. Miller, and M.H. Ellisman. **Semi-automated shape analysis of dendrite spines from animal models of fragile-X and Parkinson's disease using large deformation diffeomorphic metric mapping**. Society for Neuroscience Annual Meeting, Washington DC, USA, November 12-16, 2005.
7. **E. Ceyhan**, M. Hosakere, J. Alexopoulos, T. Nishino, C. Babb, J.T. Ratnanather, R. Todd, K.N. Botteron, and M.I. Miller. **Analysis of ventral medial prefrontal cortex metrics for depression in twins**. 11th Annual Meeting of the Organization for Human Brain Mapping, Toronto, Canada, June 12-16, 2005.
6. L. Wang, M. Hosakere, **E. Ceyhan**, G. Kaplan, M. Gado, J.T. Ratnanather, J.G. Csernansky, and M.I. Miller. **Surface area, volume and cortical thickness metrics of the cingulate gyrus in schizophrenia**. 11th Annual Meeting of the Organization for Human Brain Mapping, Toronto, Canada, 2005.
5. M.F. Beg, R.L. Buckner, B. Fischl, Y. Park, **E. Ceyhan**, C.E. Priebe, C. Ceritoğlu, A.E. Kolasny, T. Brown, B, Quinn, P. Yu, B. Gold, J.T. Ratnanather, and M.I. Miller. **Pattern classification of hippocampal shape analysis in a study of Alzheimer's disease**. 11th Annual Meeting of the Organization for Human Brain Mapping, Toronto, Canada, June 12-16, 2005.
4. M.F. Beg, J.T. Ratnanather, L. Wang, **E. Ceyhan**, C.E. Priebe, C. Ceritoğlu, A. Khan, N. Lee, J.G. Csernansky, J. Morris, and M.I. Miller. **Metric distances between hippocampal shapes predict different rates of shape changes in dementia of Alzheimer type and nondemented subjects: a validation study**. 11th Annual Meeting of the Organization for Human Brain Mapping, Toronto, Canada, June 12-16, 2005.
3. M.F. Beg, R.L. Buckner, B. Fischl, C. Ceritoğlu, A.E. Kolasny, C.E. Priebe, T. Brown, **E. Ceyhan**, Y. Park, B, Quinn, P. Yu, B. Gold, J.T. Ratnanather, and M.I. Miller. **SASHA: Semi-automated shape analysis of brain structures**. 11th Annual Meeting of the Organization for Human Brain Mapping, Toronto, Canada, June 12-16, 2005.
2. L. Wang, M. Hosakere, **E. Ceyhan**, J.T. Ratnanather, G. Kaplan, M. Gado, J.G. Csernansky, and M.I. Miller. **Labeled cortical mantle distance mapping of the cingulate gyrus in schizophrenia**. 11th Annual Meeting of the Organization for Human Brain Mapping, Toronto, Canada, June 12-16, 2005.
1. J.T. Ratnanather, C. Poynton, **E. Ceyhan**, A. Osdoit, and D. Boatman. **A cortical analysis of the laterality of the planum temporale in hearing, hearing-impaired and central auditory processing disorder subjects**. Midwinter Meeting of the Association for Research in Otolaryngology, New Orleans, LA, USA, February 19-24, 2005.

REFEREEING ACTIVITIES

Risk Analysis, 2023; *Statistics & Probability Letters*, 2022; *TEST*, 2022; *Progress in Artificial Intelligence*, 2021; *International Journal of Intelligent Systems*, 2021; *Pattern Recognition*, 2021; *Journal of Spatial Science*, 2021; *Australian Journal of Multi-Disciplinary Engineering*, 2020; *Statistical Methods in Medical Research*, 2019; *Involve*, 2018; *Journal of Statistical Computation and Simulation*, 2016; *Journal of Applied Statistics*, 2015; *Environmental and Ecological Statistics*, 2013; *JABES*, 2013; *Communications in Statistics - Simulation and Computation*, 2013, 2019; *SERRA*, 2013; *Biometrical Journal*, 2010; *Annals of Applied Statistics*, 2010; *Computational Statistics & Data Analysis*, 2005, 2007, 2009(x3), 2010, 2011(x3), 2014(x2); *Journal of Forestry Faculty of Istanbul University (in Turkish, Istanbul Üniversitesi Orman Fakültesi Dergisi)*, 2010; *Math World Magazine (in Turkish, Matematik Dünyası Dergisi)*, 2010; *Journal of Arts and Sciences*, 2009; *Computational Statistics*, 2009; *International Journal of Geographical Information Science*, 2009; *Model Assisted Statistics and Applications*, 2009; *Journal of Statistical Research (in Turkish, Istatistik Araştırma Dergisi*), 2008, 2009, 2011(x2); *Discrete Applied Mathematics*, 2008; *Journal of Biomedicine and Biotechnology*, 2007; *Discrete Mathematics*, 2006; *Journal of Computational and Graphical Statistics*, 2006; *Journal of Probability and Statistical Science*, 2004, 2010(x2).

— Reviewed 17 articles, 1 chapter, and 2 books for Mathematical Reviews, 2008 - 2017.

PROFESSIONAL MEMBERSHIP

— International Exchange Alumni, 2017 - Present.

— WAYS (World Association of Young Scientists), 2015 - Present.

— ICoRSA (International Consortium of Research Staff Associations), 2015 - Present.

— Marie Curie Alumni Association, 2014 - Present.

— The Young Statistician Group in The IASC, 2014 - 2017.

— Bernoulli Society January, 2012 - 2016.

— TIES (The International Environmetrics Society) January, 2012 - 2016, 2019 - Present.

— SIAM (Society for Industrial and Applied Mathematics) 2005, October 2011 - 2016;
SIAG (SIAM Activity Group) on Uncertainty Quantification, January, 2012 - Present; and SIAG on Discrete Mathematics, 2014 - 2015.

— IAENG (International Association of Engineers), 2010 - Present.

— TMD (Turkish Mathematical Society, in Turkish, Türk Matematik Derneḡi), 2007 - 2016.

— AMS (American Mathematical Society), 2007 - 2019.

— IASC-ISI (The International Association for Statistical Computing-A Section of the International Statistical Institute), 2007 - 2017.

— IMS (Institute of Mathematical Statistics), 2003 - Present.

— ISI (International Statistics Institute), 2007 - Present.

— ASA (American Statistical Association), 1999 - 2004, 2017 - Present.

— The Classification Society, 2022 - 2023.

REFERENCES

Available upon request.