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RESEARCH INTERESTS

- **Graph-Based Machine Learning**: Design and analysis of network-driven algorithms for classification, with emphasis on class imbalance, structural overlap, and graph-theoretic settings.
- **Random Geometric Graphs**: Theoretical and computational investigation of Proximity Catch Digraphs (PCDs), including their construction, domination, edge density, and connectivity properties.
- **Network Optimization under Uncertainty**: Development of algorithmic frameworks for stochastic traversal problems—such as the Canadian Traveler's Problem and the Stochastic Obstacle Scene Problem—under risk and path constraints.
- **Spatial Statistics and Pattern Recognition**: Application of nearest-neighbor and graph-based for spatial clustering, classification, and point pattern analysis.
- **Statistical Methods in Biomedical Data Science**: Modeling and inference for high-dimensional medical and neuroimaging data, with applications in diagnostics and image-based prediction.

EDUCATION AND PROFESSIONAL PREPARATION

- **Postdoctoral Fellow**, Center for Imaging Science, Johns Hopkins University, Baltimore, MD *June 2004 – August 2005*
- **Ph.D.**, Applied Mathematics and Statistics, Johns Hopkins University, Baltimore, MD *2000 – 2005*
  Date of issuance: May 26, 2005 Advisor: Prof. Carey E. Priebe Dissertation: *An Investigation of Proximity Catch Digraphs in Delaunay Tessellations*
- **M.S.E.**, Mathematical Sciences, Johns Hopkins University, Baltimore, MD *2000 – 2002* Date of issuance: May 23, 2002
- **M.S.**, Statistics, Oklahoma State University, Stillwater, OK *1998 – 2000*
  Advisor: Dr. Carla L. Goad Thesis: *A Comparison of Analysis of Covariance and ANOVA Methods Using Covariate-Adjusted Residuals*
- **B.S.**, Mathematics, Koç University, Istanbul, Turkey *1993 – 1997* Date of issuance: June 30, 1997

ACADEMIC APPOINTMENTS

- **Professor**, Department of Mathematics and Statistics, Auburn University, Auburn, AL *April 2, 2024 – Present*
- **Associate Professor**, Department of Mathematics and Statistics, Auburn University, Auburn, AL *July 6, 2019 – April 2, 2024*

- **Research Associate Professor**, Department of Statistics, North Carolina State University, Raleigh, NC *August 2017 – May 2019*
  Concurrently served as Deputy Director at SAMSI; taught ST 372 (Fall 2018)
- **Visiting Associate Professor**, Department of Statistics, University of Pittsburgh, Pittsburgh, PA *September 2016 – June 2017*
- **Associate Professor**, Department of Mathematics, Koç University, Istanbul, Turkey *August 2011 – August 2016*
- **Assistant Professor**, Department of Mathematics, Koç University, Istanbul, Turkey *September 2005 – August 2011*
- **Research Fellow**, Statistical and Applied Mathematical Sciences Institute (SAMSI), Durham, NC *August 2013 – July 2014*
- **Affiliated Faculty**, Graduate Program in Computational Sciences and Engineering, Koç University, Istanbul, Turkey *2006 – 2016*
- **Visiting Scholar**, Center for Bioengineering, BAMM Labs, Harvard-MIT Health Sciences and Technology, Harvard Medical School, Brigham and Women's Hospital, Cambridge, MA *Summer 2007*

ACADEMIC LEADERSHIP AND ADMINISTRATION

- **Co-Director**, *Consortium Center for Data Science Innovation*, Auburn University *September 2024 – Present*
  - Leading cross-disciplinary initiatives in research, education, and outreach.
  - Fostering strategic partnerships across campus and with external stakeholders in data science and AI.
- **Deputy Director**, Statistical and Applied Mathematical Sciences Institute (SAMSI), Research Triangle Park, NC *August 2017 – May 2019*
  - Oversaw scientific programs, personnel, infrastructure, and budgeting.
  - Directed postdoctoral programming (recruitment, mentoring, seminars, professional development).
  - Co-led thematic programs:
    - **Climate (2017–2018)**: Designed workshops and interdisciplinary projects (e.g., sea ice modeling, pollutant estimation).
    - **Precision Medicine (2017–2019)**: Coordinated NIH collaborations and university partnerships (Duke, UNC, NC State).
  - Served on SAMSI's Vision Development Team, Governing Board, and National Advisory Committee.
  - Contributed to NSF recompetition planning and organizational restructuring.
  - Founded and led the **SAMSI Associates Program**, establishing partnerships with Bayer, SAS, Lenovo, and Cerner Health.
  - Designed custom workshops and training modules; engaged with NSF, SIAM, and institutional partners.
- **Department Chair**, Department of Mathematics, Koç University *March 2010 – March 2011*
- **Faculty Council Member**, Sciences Faculty Council, Koç University *2008 – 2011*
- **Faculty Council Member**, Arts and Sciences Faculty Council, Koç University *2006 – 2008*

HONORS AND AWARDS

Fellowships and Institutional Awards

- **Sigma Xi, The Scientific Research Honor Society**, Induction as Full Member, 2025
- **Marguerite Scharnagle Endowed Professorship**, College of Sciences and Mathematics, Auburn University *October 2024*
- **Marie Kraska Award for Excellence in Teaching**, Department of Mathematics and Statistics, Auburn University *April 2024*
- **Phi Kappa Phi Love of Learning Award**, National Honor Society of Phi Kappa Phi *Fall 2024*
- **Member**, Auburn University Global Teaching Academy *April 2024*
- **Member**, Phi Beta Delta Honor Society for International Scholars, Alpha Upsilon Chapter *April 2024*
- **TWAS Young Affiliate Fellow**, The World Academy of Sciences *2012–2016*
- **Elected Member**, International Statistical Institute (ISI) *Since 2011*
- **Elected Member**, Global Young Academy *2013–2018 (Alumnus)*
- **Research Fellow**, Statistical and Applied Mathematical Sciences Institute (SAMSI) *2013–2014*
- **Distinguished Instructor**, MATH 106: Calculus, Koç University (based on student evaluations) *Spring 2013*
- **Second-Best Oral Presentation Award**, 30th National Radiology Congress, Antalya, Turkey *November 2009*
- **Member**, Phi Kappa Phi Honor Society *Since 1999*
- **Marquis Who's Who Listings**: *** Who's Who in the World** — 28th–34th Editions (2010–2016); *** Who's Who in America** — 2018; *** Albert Nelson Marquis Lifetime Achievement Award** — 2017
- **Complimentary Membership**, New York Academy of Sciences *2015–2016*
- **Abel Wolman Fellowship**, Johns Hopkins University Period: 2000 – 2001
- **Harvard–Koç University Visiting Scholarship** Period: Summer 2007

GRANTS AND EXTERNAL FUNDING

- **NSF Award #2319157** (*PI*) — *ATD: Stochastic Obstacle Scene Problem with Adversarial Agents*
  Total: $300,000 *09/2023 – 08/2026*
- **ONR Grant #N00014-22-1-2572** (*PI*) — *Adversarial Risk Analysis for Optimal Obstacle Evasion*
  Total: $358,000 *2022 – 2025*
- **Simons Collaboration Grant (MPS-TSM-00855850)** — *Graph Theoretic Learning and Spatial Methods*
  Total: $42,000 *2021 – 2026*
- **NSF Award DMS-1638521** (*Co-PI & Deputy Director, SAMSI*) — *Statistical and Applied Mathematical Sciences Institute (SAMSI)*
  Total: $3,097,333/year (3 yrs) *09/2017 – 08/2020*
  (Deputy Director through 05/15/2019)

- **EU-FP7 Marie Curie International Outgoing Fellowship** — *PRinHDD: Pattern Recognition in High Dimensional Data*
  Total: €233,921 *07/2013 – 07/2015*
  Project Summary
- **TÜBİTAK 1001 Research Grant** (*PI*) *07/2012 – 07/2013*
- **TÜBİTAK Career Development Grant** (*PI*) *02/2008 – 02/2011*

Travel and Conference Support Awards

- **International Travel and Conference Awards**: * 57th ISI World Statistics Congress, Durban, South Africa (2009); * 59th ISI Congress, Hong Kong, China (2013); * 61st ISI Congress, Rio de Janeiro, Brazil (2015); * 4th Intl. Conference of Young Scientists & Global Young Academy Meeting, Santiago, Chile (2014)
- **European Science Foundation Scholarship**
  To attend IASC-ERS Summer School on Environmental Statistics, Pamporovo, Bulgaria (2009)

TEACHING AND CURRICULUM DEVELOPMENT

Instructional Experience

- **Auburn University**, Auburn, AL *Fall 2019 – Present*
  - **Graduate Courses**:
    Mathematical Statistics I & II (Statistics prelim sequence), Bayesian Statistics, Computational Statistics (Statistical Methodology & Computing prelim sequence)
  - **Undergraduate Course**:
    Probability & Statistics for Data Science
- **North Carolina State University**, Raleigh, NC *Fall 2018*
  - Statistical Inference and Regression for Engineering
- **University of Pittsburgh**, Pittsburgh, PA *2016 – 2017*
  - Basic Applied Statistics, Introduction to Statistics, Mathematical Statistics, Nonparametric Statistics, Statistical Machine Learning
- **Koç University**, Istanbul, Turkey *Fall 2005 – Spring 2016*
  - **Undergraduate Courses**:
    Intro to Statistics (x18), Differential Equations (x6), Calculus (x5), Probability Theory (x2), Statistics for Sciences, Statistics for Social Sciences (x2), Linear Algebra, Multivariable Calculus and Matrix Algebra, Introduction to Abstract Mathematics
  - **Graduate Courses**:
    Probability and Statistical Theory and Applications, Probability and Mathematical Statistics, Mathematical Modeling of Infectious Diseases (2 semesters), Selected Topics in Probability and Statistics (2 semesters), Theory of Point Estimation, Random Graphs: Theory and Methods
- **Oklahoma State University**, Stillwater, OK *Summer 1999 & Spring 2000*
  - STAT 4013: Statistical Methods I *(Instructor of Record)*

Curriculum Design and Development

- **Auburn University**, Auburn, AL *Fall 2019 – Present*
  - Designed and launched new graduate and undergraduate courses:
    - STAT 7630: Bayesian Statistics (graduate)
    - STAT 4650: Introduction to Bayesian Statistics (undergraduate)
    - STAT 5610/6610 and 5620/6620: Fundamentals of Statistical Inference I & II
- **Koç University**, Istanbul, Turkey *Fall 2005 – Spring 2016*
  - **Educational Innovation**:
    - Introduced *MyStatLab* for adaptive, personalized homework delivery in Math 201.
    - Designed and launched Math 211 (Statistics for Sciences) to support interdisciplinary learning.
    - Integrated real-world modeling in Differential Equations (Math 204).
  - **Curriculum Reform and Academic Leadership**:
    - Led undergraduate mathematics curriculum reform: streamlined core, added elective flexibility, proposed Pure vs. Applied Math tracks.
    - Enabled interdisciplinary double majors and improved retention of high-performing students.
    - Contributed to planning a cross-disciplinary Research Center for Applied Mathematics (math, engineering, and economics).
    - Proposed a unified three-semester sequence for Calculus and Linear Algebra to enhance conceptual progression.

GRADUATE AND POSTDOCTORAL MENTORING

Graduate Students (Advisor)

- Rui Shi — Statistics (PhD, co-adviser Nedret Billor)
- Li Zhou — Statistics (PhD)
- Hyunha Park (MS in Mathematics)
- Yingshan Qiu (PhD, main advisor Yan Li)

Completed Graduate Students

- Jordan Eckert — Ph.D. in Statistics & Data Science, Auburn University, July 28, 2025 *Thesis:* Adaptive Prototype-Based Classification via Graph Theoretic and Topological Methods.
- **Zequn Wang**, M.S. in Statistics (Non-Thesis), Auburn University, 2023.
- **De Xing**, M.S. in Statistics, Auburn University, 2022.
  Thesis: An Analysis of Effect of Diet, Masu Salmon Elovl2 Transgene, and Their Interaction on Fatty Acid Composition in Channel Catfish.
- **Minghong Jian**, M.S. in Statistics, Auburn University, 2021.
  Thesis: Statistical Analysis of SAC Solder Joints' Fatigue and Damage Accumulation.
- **Polat Charyyev**, Ph.D. in Mathematics, Koç University, 2017.
  Dissertation: The Optimal Obstacle Placement with Disambiguation Problem.
- **Artur Manukyan**, Ph.D. in Computational Science and Engineering, Koç University, 2016.
  Dissertation: Statistical Learning with Proximity Catch Digraphs.

- **Selim Bahadır**, Ph.D. in Mathematics, Koç University, 2016.
  Dissertation: A Probabilistic Investigation of Invariants of NN-type Graphs.
- **Enes Özel**, M.S. in Mathematics, Koç University, 2011.
  Thesis: Extensions of Domination Number and Their Distribution for Random Interval Catch Digraph Families.

Postdoctoral Fellows Supervised

- Yuting Ma — Postdoctoral Fellow, Auburn University (October 2024 - October 2025).
- Fekadu Bayisa — Postdoctoral Fellow, Auburn University (September 2021 - May 2023).
- Antony Pearson — Postdoctoral Fellow, Auburn University (July 2020 - May 2023).

Postdoctoral Mentoring and Evaluation at SAMSI (2017–2019) * Delivered formal evaluations and feedback for postdocs and program instructors. * Observed undergraduate teaching sessions and wrote teaching reference letters. * Participated in postdoc recruitment and selection for research programs (e.g., Precision Medicine). * Advised on mentorship arrangements and funding continuity across research cycles.

Committee Membership

Ph.D. Committees — Auburn University

* Haile Gilroy — Mathematics, 2025. * Yuting Ma - Industrial & Systems Engineering, 2024. * Tagbo Aroh — Mathematics & Statistics, 2023. * Aditya Tadakaluru (university reader) — Computer Science & Software Engineering, 2023. * Minghong Jian — Industrial & Systems Engineering, 2021.

M.S. Committees — Auburn University

* Hongyang Wu — Statistics, 2021. * Todd Steury — Statistics, 2022. * Wanyu Zhang — Statistics, 2022. * Jinhai Wang — Statistics, 2022. * Jared Thacker — Statistics, 2023. * Jianfeng Zhang — Master of Probability and Statistics, 2021.

M.S. Committees — Koç University

* Emre Ekinci — Economics, 2007. * Berk Yavuzoğlu — Economics, 2008. * Mehmet Gümüş — Mathematics, 2011.

OUTREACH AND ENGAGEMENT

Auburn University (2019–Present)

- Member of Office of Faculty Engagement and Encyclopedia of Alabama and Auburn University GivePulse
- Organized Auburn University's participation in ASA AL–MS Chapter Annual Conferences (2022–Present), supporting faculty and student involvement.
- Co-presented with Dr. Nedret Billor at the Outreach and Engaged Scholarship Symposium, Auburn, AL (September 3–4, 2024): "*Future of Data Science: Enhanced Education and Strategic Industry Alliances.*"
- Founded and organized the *Statistics & Data Science Seminar Series* (Fall 2020, Spring 2022), promoting interdisciplinary exchange.

- Co-organized and judged posters at the *Forum on Data Science and AI in Production Agriculture* (April 21, 2025).
- Evaluated applications for Auburn's Global Teaching Academy (2025).
- Presented at Biggio Center's Course Redesign Microteaching Session (May 13, 2024): "*Simple Linear Regression: Relation Between Two Variables.*"
- Initiated data-driven health collaboration between CDSI and the Chambers County Health & Wellness Center, including exploratory meetings on research and workforce development.

Statistical and Applied Mathematical Sciences Institute (SAMSI)
Deputy Director, 2017–2019

- Led education and outreach, including annual Undergraduate Modeling Workshops and events at minority-serving institutions (e.g., NCCU, NC A&T).
- Co-organized the Climate Opening Workshop (August 2017) with over 40 speakers from LBNL, NASA, UNC, and LSE; served as Directorate Liaison for the Climate Program.
- Directed the Professional Development Workshop (PDW) series for postdocs and graduate students on CV writing, job interviews, and non-academic career paths.
- Served as Graduate Fellow Coordinator (2018–2019), providing mentoring and coordinating interdisciplinary research presentations.
- Spearheaded SAMSI's participation in national diversity events (SACNAS, Blackwell-Tapia, Infinite Possibilities), handling logistics and speaker invitations.
- Co-developed the SAMSI Associates Program to build collaborations with Bayer, SAS, and Valassis, securing $100,000 in industry support for postdoctoral engagement.
- Represented SAMSI in national interdisciplinary initiatives with NSF, TRIPODS, and national labs, on topics such as fairness in AI and digital twins.

Koç University (2005–2016)

- Co-developed Math 211: Statistics for Sciences, tailored to science majors with emphasis on probability and regression modeling.
- Contributed to balancing English/Turkish instruction in first-year courses to enhance accessibility and academic rigor.
- Participated in international STEM outreach as a member of the Global STEM Alliance (New York Academy of Sciences).
- Advocated for mathematics visibility through curriculum reform and innovative undergraduate instruction.

PROFESSIONAL SERVICE

Editorial Activities

- **Associate Editor**, *Journal of Statistical Computation and Simulation 2007–2013, 2021–Present*
- **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*
- **Scientific Advisory Board Member**, *Human Brain Mapping Meeting*, Chicago, IL *June 2007*
  Served as abstract reviewer and advisory board member for HBM 2007

Conference Organization and Service

Regional and Institutional Events

- **Chair**, ASA AL–MS Chapter Conference and Business Meeting, Starkville, MS *March 21, 2025*
- **Organizer**, ASA AL–MS Chapter Conference and Business Meeting, Auburn, AL *April 13, 2024*
- **Organizing Committee Member**, Forum on Data Science and AI in Production Agriculture, Auburn University *April 21, 2025*
- **Founder and Organizer**, *Statistics & Data Science Seminar Series*, Department of Mathematics and Statistics, Auburn University *Fall 2020, Spring 2022*

National Program Leadership — SAMSI (2017–2019)

- **Deputy Director**, SAMSI, Research Triangle Park, NC
- Organized/co-organized workshops:
  - *PMED Opening Workshop*, SAMSI–NCSU *August 2018*
  - *PMED Transition Workshop*, SAMSI *May 2019*
  - *Workshop on Forensics and Criminal Justice*, NCCU–SAMSI *March 2018*
  - *Climate Opening Workshop*, SAMSI *August 2017*
  - *Undergraduate Workshop on Climate Methods*, SAMSI *October 2017*
- Directed or chaired:
  - *Undergraduate Interdisciplinary Modeling Workshop*, SAMSI–NCSU *May 2018*
  - *Professional Development Workshop Series* *2017–2019*
- Other roles:
  - Scientific Coordinator, *Optimization Program*, including 2017 SIAM collaboration
  - Co-developer, proposed program on *Combinatorial Statistics* (SAMSI 2020–2021)
- **Organizer and Organizing Committee Member**, Modern Math Workshop 2018, *October 10-11, 2018*

International Conferences and Symposia

- **Co-organizer**, Invited Session: *"Instance and Graph-Based Learning from High-Dimensional Data"*, ICICSM, Cappadocia, Turkey *May 18–21, 2016*
- **Organizer**, Special Topic Session 72: *"Graph Theoretic Methods for Spatial Data Analysis"*, ISI World Statistics Congress, Hong Kong *August 25–30, 2013*
- **Organizer & Co-Chair**, 8th World Congress in Probability and Statistics, Istanbul, Turkey *July 9–14, 2012*
- **Organizer & Co-Chair**, Pre-World Congress Meeting of Young Researchers in Probability and Statistics, Koç University *July 6–8, 2012*
- **Organizer & Chair**, Session ES27: *"Analysis of Spatial Data"*, ERCIM 10, London, UK *December 2010*

- **Organizer & Chair**, IPM 35: *"Spatial Statistics in Epidemiology"*, ISI Congress, Durban, South Africa *August 2009*

Scientific Program Committees

- **Member**, Scientific Committee, 8th World Congress in Probability and Statistics, Istanbul, Turkey *July 9–14, 2012*
- **Member**, Scientific Committee, Pre-World Congress Meeting of Young Researchers, Koç University *July 6–8, 2012*
- **Member**, Scientific Committee, NEDETAS Conference, Ankara, Turkey *May 2–4, 2011*
- **Member**, Scientific Committee, 3rd ERCIM Conference on Computing and Statistics, London, UK *December 10–12, 2010*

Other Academic Events

- **Organizing Committee Member**, 21st National Mathematics Symposium, Istanbul, Turkey *September 1–4, 2008*
- **Seminar Organizer**, *Math-Sci Seminar Series*, Koç University *Fall 2006 – Spring 2007*

Department and University Service

Auburn University

- Member: * four faculty search committees (various years); * Graduate Studies Committee (2023–Present); * Mathematical Statistics Preliminary Exam Committee (2020–2022); * Statistics Methods & Computation Preliminary Exam Committee (2024–2025); * Probability Preliminary Exam Committee (2025); * Third-Year Review Committee and Ad Hoc Promotion Committee (2025) * DMS Interim Chair Search Committee (2025)
- COSAM representative on Auburn University's Creative Research & Scholarship Awards Committee
- Led prerequisite revision for STAT 7630 in AU CIM system (Fall 2024)
- Course observer/evaluator for GTA-taught sections (e.g., STAT 3010, Spring 2025)
- Reviewer, COSAM RSP and EPSCoR proposals (2024–2025)
- Committee Member, AI@AU Research Initiative (2022–Present)
- Evaluator, Global Teaching Academy Applications (2025)
- University Reader, two PhD dissertations
- Founder and Organizer, *Statistics & Data Science Seminar Series*
- Poster Judge, Forum on Data Science and AI in Production Agriculture (April 2025)

Koç University

- Committee Member, Istanbul Mathematics Olympiad (March 2008)
  Served on the problem-writing committee for the regional competition.

External Service and Leadership

- **Member**, IsoStat Group, American Statistical Association (Nov 15, 2025 - Present)
- **Mentor**, MCAA Academy, Marie Curie Alumni Association (May 28, 2025 - Present)
- **Member**, Group of Interest "MCAA: Bridging Continents with Scientific Diplomacy" (June 2025–Present)
- **Expert Reviewer**, UNDRR–ISC Hazard Information Profiles (HIPs) (April 2025)
- **Contributor**, UN Scientific Advisory Board Horizon Scanning (January 2025)
- **Submitted Comments**, * U.S. Department of Education. Secretary's Supplemental Priority and Definitions on Advancing Artificial Intelligence in Education (Docket ID ED-2025-OS-0118), August 11, 2025. * ASA's Ethical Guidelines for Statistical Practice, June 29, 2025 * U.S. FDA Draft Guidance on AI-enabled systems (April 2025); * EU Draft Data Quality Framework (February 2025)
- **Reviewer:**, * Global Young Academy Applications (January 2025); * Simons Collaboration Grants (2022); * Aderemi Kuku Prize, Nigerian Young Academy (2013, 2014)
- **National Service — SAMSI, Research Triangle Park, NC (2017–2019)**
  - Led NSF site visit preparation, strategic planning, and educational programming
  - Directed postdoctoral program, seminars, and mentoring
  - Liaised with NSF, UNC, Duke, and NCSU on researcher integration
  - Drafted institutional letters for NSF proposals and fellowships
  - Represented SAMSI at Mathematical Institutes Directors (MID) meetings (2017–2018)
  - Co-led organizational transition planning; proposed new structures (e.g., Diversity AD)
  - Contributed to consensus reports on data policies and inter-institute collaboration
- **Expert Reviewer**, Horizon 2020 MSCA Proposal Evaluations (2016)
- **Volunteer**, National Academies of Sciences, Engineering, and Medicine (2023–Present)
- **Planning Committee Member**, NASEM AI–Biological Data Workshop Series (2022–2023)
- **President**, ASA Alabama–Mississippi Chapter (2024–Present)
- **University Representative**, ASA AL–MS Chapter (2022–Present)
- **Mentor**, INFORMS Mentor Match Program (Oct 2024 – Apr 2025)
- **Board Member**, IASC–ERS, International Association for Statistical Computing (2012–2016)
- **Panel Member**, TÜBİTAK Scientific Project Review (2011–2013)
- **Consultant**, TÜBİTAK Scientific Projects (2010–2012)
- **Council Member**, Turkish Statistical Society (2010–2016)
- **Contact Member (Turkish)**, ISI Multilingual Glossary Project (2008–2016)

PROFESSIONAL DEVELOPMENT

- **AI and Digital Literacy**
  - Attended *Machines & Methods: AI for Research* Workshop, Auburn University, October 9, 2025.
  - Attended the *In-Person Support & Tips from ProctorU* Session, Biggio Center, July 28, 2025
  - Completed the LinkedIn Course: *How to Use Generative AI: Building an AI-First Mindset*, July 19, 2025.
  - Completed the Learning Path "Your Guide to Copilot and Microsoft 365 Copilot" under ElevatED in June 2025. This path included the following courses: ∗ IT500E: An Introduction to AI and Microsoft Copilot at Auburn University, ∗ Copilot in Teams: AI-Powered Collaboration, ∗ Copilot in Outlook: Maximize Your Workday Efficiency, ∗ Copilot in Word: Create and Refine Documents with AI (February 2024), ∗ Copilot in PowerPoint: From Prompt to Presentation, ∗ Copilot in Excel: Supercharge Your Productivity
  - Earned Badge: *Microsoft 365 Copilot Learning Path (Live Version)*, June 2025
  - Attended *PP110V AI Prompting Playground (Auburn Copilot & Adobe Express)*, February 21, 2025
  - Participated in *Exploring Generative AI Workshop (ElevatED PP107C)*, February 7, 2025
  - Participated in *CADRE Learning Series: Generative AI in STEM Teaching*, January 24, 2025
- **Research Compliance and Grant Writing**
  - Completed the following CITI Program Courses:
    ∗ *Research Security Training (Combined)*, September 5, 2025. ∗ *AU Basic RCR (Responsible Conduct of Research) Training for ALL Faculty, Staff, Postdocs, and Students*, August 15, 2025. ∗ *Investigator Responsibilities Under NSF*, July 15, 2025. ∗ *Essentials of Research Administration*, July 11, 2025.
    ∗ *Conflicts of Interest*, January 28, 2023.
    ∗ *Essentials of Grant Proposal Development*, December 14, 2022.
  - Grant Writing Workshop, May 20, 2025, University Writing Center, Auburn University
  - Endeavor Training for Faculty, January 9, 2025
- **Pedagogical and Institutional Engagement**
  - Completed the ElevatED Courses:
    ∗ *CR519E: Document Accessibility 101*, October 18, 2025.
    ∗ *CR503E: Intro to Digital Accessibility for Instructional Designers*, October 18, 2025.
  - Participated in ElevatED Courses:
    ∗ *Zentangle (ElevatED HW106C)*, July 11, 2025.
    ∗ *The Wellness Wheel: How Well are you Rolling? (ElevatED HW104C)*, July 10, 2025.
  - Manager Role Assigned in ElevatED, Auburn's Employee Education Center, May 2025
  - 2025 Writing Across the Curriculum (WAC) Workshop: *Teaching Critical Thinking with AI-Engaged Writing Assignments*, Auburn University, June 3,5,9,11, 2025
  - Faculty Mindful Writing Retreat, May 21–22, 2025, University Writing Center, Auburn University
  - **Biggio CRD (Course Redesign) F2F Program**, Auburn University, AL *May 8–10 & 13–14, 2024*
    Earned Course Redesign Badge *(July 1, 2024)* *Digital Badge*
  - **AUAI: Teaching with AI at Auburn**, Auburn University, AL *Spring 2024*
    Earned AI Teaching Badge *(February 29, 2024)* verify: *Digital Badge*
  - **AUAI: Teaching with AI at Auburn:** Earned the following Badges on September 17, 2025, Auburn University, Auburn, Auburn, AL: *AI Pathfinder*, *AI & Assessment*, *AI Collaborator*, *AI Integrity*, *AI Course Design*, *AUAI: Experimenter*.

  - **Mobile Summer Institute (MOSI) on Active Learning**, Auburn University, AL
    Summer 2022
    Focused on implementing active learning strategies to improve student engagement and retention in STEM disciplines.

- **Career and Research Training**
  - Attended the "Team Science Series Leadership Workshop 1 - Team", Auburn University Research & Innovation Center, September 12, 2025
  - Attended the "Team Science Series Leadership Workshop 2 - Establishing Shared Expectations & Building Effective Teams", Auburn University Research & Innovation Center, October 17, 2025
  - Completed *AAAS Science Careers Individual Development Plan (myIDP)*, May 2025
    A structured self-assessment and goal-setting tool aimed at enhancing mentoring practices, research productivity, and long-term career planning.
  - **Marie Curie International Outgoing Fellowship (EU-FP7)** *2013–2015*
    Host: Statistical and Applied Mathematical Sciences Institute (SAMSI), Durham, NC
    Participated in SAMSI's LDHD (Low Dimensional Structure in High Dimensional Data) Program; contributed to working groups on Inference (Dimension Reduction), Geometry/Topology/Statistics, and Probabilistic Modeling.
    Attended six LDHD and three CMSS workshops; expanded research in classification, clustering, and topological data analysis.

TECHNICAL AND ANALYTICAL SKILLS

- **Languages:** Turkish (native), English (fluent)
- **Statistical Software:** R, SAS, Spark (via R interface)
- **Mathematical and Computational Tools:** Maple, Mathematica (for symbolic computation and analytical modeling)
- **Programming Languages:** C++, Pascal (basic proficiency); HTML (for academic web development)
- **Operating Systems:** Windows, Linux

SOFTWARE PACKAGES (R)

- `nnspat`: Nearest Neighbor Methods for Spatial Data Analysis
  Role: Author & Maintainer **Links:** CRAN — GitHub
- `pcds`: Proximity Catch Digraphs and Their Applications
  Role: Author & Maintainer **Links:** CRAN — GitHub
- `pcds.ugraph`: Undirected Representations of Proximity Catch Digraphs
  Description: Extension of `pcds` for underlying and reflexivity graphs
  Role: Author & Maintainer **Links:** CRAN — GitHub
- `PCDSL`: Proximity Catch Digraphs for Statistical Learning
  Role: Author & Contributor **Link:** GitHub

REFEREED PAPERS AND PUBLICATIONS

Journal Articles

Legend: [S] Articles in probability, statistics, or mathematics journals;
[M] Methodology articles in medical, imaging, or other sciences;
[A] Applied articles in medical, imaging, or domain-specific journals.

60. [A] L. Zhou, **E. Ceyhan**, and P. Charyyev. **Adversarial Obstacle Placement with Spatial Point Processes for Optimal Path Disruption.** *ISPRS (International Society for Photogrammetry and Remote Sensing) International Journal of Geo-Information*, 14(10), 374. , September 2025.

59. [A] M. Yuval, A. Peleg, **E. Ceyhan**, D. Tchernov, Y. Loya, A. Bar-Massada, and T. Treibitz. **Intratentacular Budding and Population Dynamics of Zooids in Two Coral Genera.** *Ecological Informatics*, 90, 103293. , July 2025.

58. [M] T. Kent, V. Sinha, **E. Ceyhan**, L. Sura, E. Yekeler, M.D. Weiss, and 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. [S] **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.

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OTHER PUBLICATIONS

Discussion Notes

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

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

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

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

Pedagogical Contributions and Showcases

2. **E. Ceyhan**. **Student Perspectives on AI in Education: A Survey and Reflection**. In *AI in Teaching and Learning Showcase* (Link to Contribution). Virginia Broffitt Kunzer & DeElla Wiley (Eds.). Auburn University Biggio Center, March 2025.

1. **E. Ceyhan**. **Compare Traditional Computational Results to AI-Enhanced Analysis**. In *AI in Teaching and Learning Showcase* (Link to Contribution). Virginia Broffitt Kunzer & DeElla Wiley (Eds.). Auburn University Biggio Center, March 2025.

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.

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CONFERENCE PRESENTATIONS

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24. 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**, ASNR23 — American Society of Neuroradiology Annual Meeting, Chicago, IL, April 29–May 3, 2023. (Published in ASNR23 Abstract Proceedings.)

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 (CPS428)**. Proceedings of the 60th 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 (CPS351)**. Proceedings of the 60th World Statistics Congress, Rio de Janeiro, Brazil, July 26-31, 2015.

20. Invited Talk, E. Ceyhan. **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. (Refereed abstracts volume).

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15. 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 (Abstracts), Boston, MA, USA, May 15-20, 2010.

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13. **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.

12. 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**. Proceedings of the ASNR (American Society of Neuroradiology) 47th Annual Meeting, Vancouver, British Columbia, Canada, May 16-21, 2009.

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10. E. Ceyhan. **The asymptotic distribution of the domination number of proximity catch digraphs**. Abstracts booklet, 21st National Mathematics Symposium, Istanbul, Turkey, September 1-4, 2008.

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

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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 (HIBIT'07), In: L. E. Akman, N. Baykal, T. Can, M.,U. E. İşcan, and U. E. Mumcuoğlu (eds.), Antalya, Turkey, April 30-May 2, 2007.

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4. E. Ceyhan. **Edge correction for exact tests on nearest neighbor contingency tables for testing spatial segregation**. In JSM Proceedings, Section on Statistics and the Environment. Alexandria, VA: American Statistical Association, 2007. (CD-ROM). [Presented at JSM, Salt Lake City, UT, 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 ISPA 2007 — 5th International Symposium on Image and Signal Processing and Analysis, Istanbul, Turkey, September 27-29, 2007, pp. 13–18. IEEE, 2007. ISBN 978-953-184-116-0. (IEEE Cat. No. CFP07504-PRT)

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1. **E. Ceyhan** and C.E. Priebe. **Central similarity proximity maps in Delaunay tessellations**. In JSM Proceedings, Section on Statistical Computing. Alexandria, VA: American Statistical Association, 2003 (CD-ROM), pp. 840–845. [Presented at JSM, San Francisco, CA, August 3–7, 2003.]

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56. **E. Ceyhan**, "From MSCA Fellow to Institute Leadership - and back to Academia." Connecting Minds Across Continents: MCAA North America Meeting 2025, Chicago, IL, November 6-7, 2025.

55. Li Zhou and **E. Ceyhan**. "Dynamic Path Planning in Stochastic Environments." INFORMS Annual Meeting, Atlanta, GA, October 26–29, 2025

54. L. Zhou and **E. Ceyhan**, "Optimizing Navigation in Uncertain Terrain with Spatially Correlated Obstacles", Joint Statistical Meeting (JSM), Nashville, TN, August 2-7, 2025.

53. J. Eckert and **E. Ceyhan**, "An Ensemble Approach for Graph-Based Classification", Joint Statistical Meeting (JSM), Nashville, TN, August 2-7, 2025.

52. M. Lanius, **E. Ceyhan**, and S. Bowers "From Hesitancy to Engagement: Cultivating Student Mindsets for Responsible AI Use in Higher Education". International Perspectives on University Teaching and Learning (IPUTL), Orlando, Florida, June 23-25, 2025

51. J. Eckert and **E. Ceyhan**. "An Ensemble Framework Based on Geometric Digraphs Classification". Classification Society Annual Meeting, Ottawa, Ontario, Canada, June 17-19, 2025.

50. M. Lanius and **E. Ceyhan**, "Mute your mic if you need to cry! Exploring qualitative approaches to data analysis through a study of undergraduates' emergency remote learning experiences". Graduate Student Seminar at Department of Math & Stat, Auburn University, April 2, 2025

49. L. Zhou and **E. Ceyhan**, **Optimistic Policy Iteration for Dynamic Path Planning**, 2025 ASA AL-MS Chapter Annual Conference and Business Meeting, Starkville, MS, March 21, 2025 (won the second-best oral presentation award)

48. M. Lanius, **E. Ceyhan**, and S. Bowers, **Me, Myself, and AI: On social-emotional integration of AI in learning experiences for graduate and undergraduate students**, 2025 Joint Mathematics Meetings (JMM 2025), Seattle, WA, January 8-11, 2025.

47. Invited Session Talk, **An Overview of Optimizing Network Navigation in Stochastic Obstacle Scene Problem**, 2024 INFORMS Annual Meeting, Seattle, WA, October 20-23, 2024

46. Presentation, **Optimal Pathfinding and Obstacle Placement in Stochastic Environments**, Joint ATD/AMPS PI Workshop, Alexandria/Carlyle, VA, October 07-09, 2024

45. N. Billor and **E. Ceyhan**. **Future of Data Science: Enhanced Education and Strategic Industry Alliances**, Outreach and Engaged Scholarship Symposium, Auburn, AL, September 3-4, 2024

44. R. Shi and **E. Ceyhan**. **Outlier Detection with Cluster Catch Digraphs**, ICORS (International Conference on Robust Statistics) meets DSSV (Conference on Data Science, Statistics and Visualisation) 2024, Fairfax, Virginia, Jul 29 - Aug 1, 2024

43. (lightning talk & poster) R. Shi, N. Billor and **E. Ceyhan**. **Outlier Detection with Random Geometric Digraphs**, 2024 Symposium on Data Science & Statistics, Richmond, Virginia, June 4-7, 2024

42. (lightning talk & poster) L. Zhou and **E. Ceyhan**. **Stochastic Obstacle Scene Problem with Correlated Obstacles**, 2024 Symposium on Data Science & Statistics, Richmond, Virginia, June 4-7, 2024

41. Invited Talk, **Navigation Algorithms for Optimal Pathfinding in Stochastic Obstacle Scene Problem**, The 9th Workshop on Biostatistics and Bioinformatics, Georgia State University, Atlanta, May 03-05, 2024

40. R. Shi, N. Billor, and **E. Ceyhan**. **Outlier Detection with Cluster Catch Digraphs**, Auburn's 2024 Research Symposium, March 26, 2024.

39. J. Eckert and E. Ceyhan. **Adaptive Hybrid Learning with Geometric Catch Digraphs**, Graduate Student Research Forum, Auburn University, Auburn, AL, March 22, 2024.

38. P. Charyyev, L. Zhou, and **E. Ceyhan**. **Dependence of the Traversal Length of a Disambiguating Agent on the Obstacle Pattern: From Clustering to Regularity**, International Conference on Data Science ICDS2023, Santiago de Chile, November 8-10, 2023.

37. F.L. Bayisa, C.L. Seals, H.J. Leeper, **E. Ceyhan**, and T.D. Steury. **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.

36. 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, 2023.

35. **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.

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

33. SMAC Talk, **Imbalanced Classification based on a Geometric Graph Family**, Department of Statistics, Penn State, State College, PA, March 19, 2021.

32. Neuroimaging Journal Club Seminar, **Two algorithms to quantify and analyze brain morphometry**, February 21, 2020.

31. Graduate Student Seminar, **Two algorithms to quantify brain morphometry and its analysis**, March 18, 2020.

30. Graduate Student Seminar, **Optimal obstacle placement with disambiguations in presence of uniform clutter**, October 7, 2020.

29. 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.

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

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

23. 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.

22. **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.

21. 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.

20. V. Aksakallı and **E. Ceyhan**, **Optimal obstacle clustering patterns with disambiguations**, 8th World Congress in Probability and Statistics, Istanbul, Turkey, July 9-14, 2012.

19. **Statistical tests, univariate analysis, parametric tests, nonparametric tests, and ANOVA methods for medical practice**, Presented at the 2. Summer Course on Research Methodology in Medical Sciences, Koç University, Istanbul, Turkey, July 19-23, 2010; July 18-22, 2011.

18. **Relative density of random proximity catch digraphs: Theory and applications**, Department of Industrial Engineering, Çankaya University, Ankara, Turkey, December 24, 2010.

17. **Domination number of random proximity catch digraphs: Theory and applications** IMBM Istanbul Center for Mathematical Sciences— Discrete Mathematics Meetings, Boğaziçi University, Istanbul, Turkey, November 26, 2010.

16. **The asymptotic distribution of the domination number of a geometric digraph family** Department of Mathematical Engineering, Istanbul Technical University, Istanbul, Turkey, November 12, 2010.

15. **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.

14. 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.

13. Graduate Learning Seminar, **A short synopsis on random graphs, spatial point patterns, and image analysis**, Department of Mathematics, Koç University, November 2, 2009.

12. 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.

11. Statistics Seminar, **Random proximity catch digraphs: Theory and applications - II**, Department of Statistics, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, September 25, 2009.

10. 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.

9. Mathematics Seminar, **Random Geometric Graphs and their Applications**, Süleyman Demirel University, Isparta, Turkey, March 3, 2009.

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**. 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. Invited Talk, M. Hosakere and **E. Ceyhan**, **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.

CONFERENCE POSTERS

Posters Published in Proceedings

14. E. Özel and **E. Ceyhan**, **The distribution of fractional domination number of a random digraph family based on one-dimensional uniform data**. In PROBASTAT 2011: Abstracts (eds. R. Harman, J. Somorčík, V. Witkovský). Bratislava: Institute of Measurement Science, Slovak Academy of Sciences, 2011, p. 36. (6th International Conference on Probability and Statistics, Smolenice Castle, Slovakia, July 4–8, 2011.)

13. S. Ünel, S. Albayram, **E. Ceyhan**, M. Aşık, S. Aydın, Y. Savaş, A. Kırış, Z. Işık, and Ş. Odabaşı. **Evaluation of Anastomoses Between the 7th and 8th Cranial Nerves in the Internal Auditory Canal and Cerebellopontine Angle Using 3D Balanced Fast Field Echo Sequence in Magnetic Resonance Imaging**. Proceedings (Abstracts), TÜRKRAD 2010 — 31st National Radiology Congress, Rixos Sungate, Antalya, Turkey, Nov 7–12, 2010.

12. 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**. Abstracts of the 16th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2010), Barcelona, Spain, June 6–10, 2010 — published in NeuroImage, Supplement 1 (July 2010).

11. 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**. Abstracts of the 16th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2010), Barcelona, Spain, June 6–10, 2010 — published in NeuroImage, Supplement 1 (July 2010).

10. S. Ünel, S. Albayram, **E. Ceyhan**, S. Aydın, D. Gürbüz, N. Hatipoğlu, Y. Savaş, S. Odabaşı, and A. Kırış. **Determining the topographical relationship of the seventh and eighth nerves in the cerebellopontine cistern and internal auditory canal in living humans using 3D CISS MR imaging**. *Abstract*, Proceedings of the ASNR 48th Annual Meeting & NER Foundation Symposium, Boston, MA, May 15–20, 2010.

9. S. Ünel, S. Albayram, **E. Ceyhan**, S. Aydın, D. Gürbüz, N. Hatipoğlu, Y. Savaş, S. Odabaşı, and A. Kırış. **Determining the anastomosis of the nerves in the internal auditory canal and cerebellopontine cistern in living humans using 3D CISS MR imaging**. *Abstract*, Proceedings of the ASNR 48th Annual Meeting & NER Foundation Symposium, Boston, MA, May 15–20, 2010.

8. S. Aydın, S. Albayram, **E. Ceyhan**, D. Gürbüz, S. Ünel, F. Kantarcı, Y. Savaş, and A. Kırış. **Quantitative and qualitative comparison of 0.5M gadoterate meglumine and 1M gadobutrol in contrast-enhanced MR angiography of carotid arteries**. *Abstract*, Proceedings of the ASNR 48th Annual Meeting & NER Foundation Symposium, Boston, MA, May 15–20, 2010.

7. E. Ceyhan. **New multi-class and directional clustering tests based on nearest neighbor contingency tables**. *Poster abstract* in *ISNI 2008: Scientific Programme and Proceedings*, International Seminar on Nonparametric Inference, University of Vigo, Spain, November 5–7, 2008.

6. **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**. Abstracts of the 12th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2006), Florence, Italy, June 11–15, 2006. Published in NeuroImage 31 (Suppl 1): S29–S185, 2006.

5. **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**. Abstracts of the 11th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2005), Toronto, Canada, June 12–16, 2005. Published in NeuroImage 26 (Suppl 1), 2005.

4. 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**. Abstracts of the 11th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2005), Toronto, Canada, June 12–16, 2005. Published in NeuroImage 26 (Suppl 1), 2005.

3. 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**. Abstracts of the 11th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2005), Toronto, Canada, June 12–16, 2005. Published in NeuroImage 26 (Suppl 1), 2005.

2. 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**. Abstracts of the 11th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2005), Toronto, Canada, June 12–16, 2005. Published in NeuroImage 26 (Suppl 1), 2005.

1. 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**. Abstracts of the 11th Annual Meeting of the Organization for Human Brain Mapping (OHBM 2005), Toronto, Canada, June 12–16, 2005. Published in NeuroImage 26 (Suppl 1), 2005.

Posters Not Published in Proceedings

14. **E. Ceyhan**, N. Billor, and M. Lanius. **Empowering Education through Data Science: A Collaborative Initiative by CDSI and PEER**. Auburn University Outreach and Engaged Scholarship Symposium August 27-28, 2025

13. N. Billor and **E. Ceyhan**. **CDSI: Advancing Data Science for Innovation in Production Agriculture and Beyond**, Harnessing Data Science and AI for Collaborative Advances in Production Agriculture Forum, Auburn University, Auburn, AL, April 21, 2025.

12. L. Zhou and **E. Ceyhan**. **Stochastic Obstacle Scene Problem with Correlated Obstacles**, Joint ATD/AMPS PI Workshop, Alexandria/Carlyle, VA, October 07-09, 2024.

11. L. Zhou and **E. Ceyhan**. **Stochastic Obstacle Scene Problem with Limited Dynamic Learning Capability**, Auburn's 2024 Research Symposium, March 26, 2024.

10. 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.

9. A. Pearson and **E. Ceyhan**. **Adaptive and hybrid classification with domain-dependent digraphs.** Alabama-Mississippi ASA Chapter Annual Conference, Jackson, MS, April 1, 2022.

8. 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.

7. E. Ceyhan. **Pattern recognition with parameterized random geometric graphs.** TWAS 25th General Meeting, Muscat, Oman, October 26-29, 2014.

6. 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.

5. 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.

4. 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].

3. 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.

2. 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.

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.

REVIEWING ACTIVITIES

Journal and Conference Peer Review

Recent (2020–2024): Computational Statistics (2024 ×2), *Metrika* (2024), *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)

Earlier (2004–2019): Statistical Methods in Medical Research (2019), *Involve* (2018), *Communications in Statistics – Simulation and Computation* (2013, 2019), *Journal of Statistical Computation and*

Simulation (2016), *Journal of Applied Statistics* (2015), *Environmental and Ecological Statistics* (2013), *JABES* (2013), *SERRA* (2013), *Biometrical Journal* (2010), *Annals of Applied Statistics* (2010), *Computational Statistics & Data Analysis* (2005, 2007, 2009×3, 2010, 2011×3, 2014×2), *Journal of Forestry Faculty of Istanbul University* (2010, Turkish), *Math World Magazine* (2010, Turkish), *Journal of Arts and Sciences* (2009), *International Journal of Geographical Information Science* (2009), *Model Assisted Statistics and Applications* (2009), *Journal of Statistical Research* (2008, 2009, 2011×2, Turkish), *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, 2010×2)

Mathematical Reviews and Book/Chapter Reviews

- Reviewed 17 journal articles, 1 book chapter, and 2 books for *Mathematical Reviews* (2008–2017)

PROFESSIONAL MEMBERSHIPS

Active Memberships

- *American Association of Colleges and Universities (AAC&U)* (2025–Present)
- *INFORMS (Institute for Operations Research and the Management Sciences)* (2024–Present)
- *The Classification Society* (2022–Present)
- *TIES (The International Environmetrics Society)*(2019–Present)
- *International Exchange Alumni* (2017–Present)
- *ASA (American Statistical Association)* (1999–2004, and 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)
- *IAENG (International Association of Engineers)* (2010–Present)
- *IMS (Institute of Mathematical Statistics)* (2003–Present)
- *ISI (International Statistical Institute)* — Elected member (2007–Present)

Past Memberships

- *AMS (American Mathematical Society)* — 2007–2019
- *IASC-ISI (International Association for Statistical Computing)* — 2007–2017
- *Bernoulli Society* — 2012–2016
- *TMD (Turkish Mathematical Society)* — 2007–2016
- *SIAM (Society for Industrial and Applied Mathematics)* — 2005, 2011–2016
- *SIAG on Uncertainty Quantification (SIAM Activity Group)* (2012–2014)
- *SIAG on Discrete Mathematics (SIAM Activity Group)* — 2014–2015
- *Young Statisticians Group in IASC* — 2014–2017

MEDIA AND PUBLIC RECOGNITION

- Featured in (Auburn Stories) as part of **AI Across Campus** series for my two AI-integrated teaching contributions to ("AI in Teaching and Learning Showcase") with the title *AI across campus: Faculty implementations leading curriculum advancement*, Auburn News, June 23, 2025, which was also highlighted in AU Wire (wire.auburn.edu)
- 2025 ASA AL–MS Chapter Annual Meeting in: *"Mississippi State University Hosts Successful 2025 Alabama-Mississippi Chapter of ASA Meeting"*, Mississippi State University News, March 2025. Also featured on NewsBreak.
- 2025 ASA AL-MS Chapter Annual Conference and Business Meeting is featuresd in *AMSTAT News* for advancing regional collaboration and student achievement.
- **Contributor**, Biggio Center's AI in Teaching and Learning Showcase (2025), with two published reflections:
  - "Compare Traditional Computational Results to AI-Enhanced Analysis"
  - "Student Perspectives on AI in Education: A Survey and Reflection"
- Featured on MathInstitutes.org Highlights for co-organizing the *Statistics in the Criminal Justice System Workshop* (co-hosted by SAMSI and North Carolina Central University), March 24, 2018. This event marked SAMSI's first workshop on the campus of a Historically Black College or University (HBCU), introducing undergraduates and graduates from underrepresented groups to applications of statistics in forensic science and the legal system.
- **Featured**, Marie Curie Alumni Association Newsletter, Issue No. 6: "IOF in the Spotlight" *May 2015*
- **Statistician Job of the Week**, Statistics2013.org (International Year of Statistics) *October 17, 2013*
- Featured in IMS Bulletin and IMS News for co-chairing the Local Organizing Committee of the Eighth World Congress in Probability and Statistics, Istanbul, Turkey (July 2012).
  The Congress hosted over 750 participants from 61 countries and included 14 plenary lectures, 40 invited sessions, and 91 contributed sessions. Coverage appeared in *IMS Bulletin*, Vol. 41, No. 6 (September 2012), pp. 5–6.
- **Featured Research Article**, *VerticalNews/NewsRx.com*: "Extension of One-Dimensional Proximity Regions to Higher Dimensions," *Computational Geometry: Theory and Applications*, 43(9):721–748, November 2010
- **Featured Researcher**, *Koç University Alumni E-Bulletin* *October 2005*
  Article titled "Dr. Elvan Ceyhan: A Journey from Koç University to Academia" Link to article
- **Interview Feature**, *Kule Magazine*, Koç University, Issue 27 *2009*
  Article titled "Dr. Elvan Ceyhan Presents His Research" Link to article
- **Highlighted Organizer**, *KU Frontier Magazine* *2012*
  Recognized in the News section for organizing the *8th World Congress in Probability and Statistics* and the *Pre-Congress Meeting of Young Researchers in Probability and Statistics*
- **Open Science Contributions**: Selected articles and reports are available on arXiv.org. Publications #7, 28, 29, 33, 35, 36, 40, 42, 44 are featured on the NewsRx BUTTER Platform.

REFERENCES

Available upon request.