Exponent®
Engineering & Scientific Consulting

Abeer Hasan, Ph.D.

Managing Scientist | Data Sciences
Menlo Park
+1-650-688-7275 tel | ahasan@exponent.com

Professional Profile

Dr. Hasan has broad experience in the application of statistical methods to problems in environmental science, medicine, and public health. Her areas of research expertise include change-point detection, distribution theory, mixtures of distributions, and skewed distributions.

Dr. Hasan also has a strong foundation in mathematics and proficiency in a range of software tools including R, RStudio, Minitab, MS Excel, and SAS.

Prior to joining Exponent, Dr. Hasan was a tenured associate professor at Humboldt State University (now Cal Poly Humboldt). She taught statistics, conducted research in statistics and statistics education, and provided statistical consulting to students and professors at the university. Dr. Hasan founded and directed a statistical consulting laboratory and provided statistical support for grant proposals, theses, and research papers. She led a research experience for undergraduates in topological data analysis, which students used to explore trends in COVID-19 hospitalization rates across different states. Dr. Hasan holds a certificate in Medical Statistics from Stanford University. In addition to her academic experience, Dr. Hasan worked briefly as a senior biostatistician at a pharmaceutical company, where she served as a study statistician for phase 2 clinical trials in ophthalmology.

Academic Credentials & Professional Honors

Ph.D., Statistics, Bowling Green State University, 2013

M.Sc., Applied Mathematics, University of Toledo, 2009

M.A., Mathematics, The University of Jordan, 2006

B.Sc., Mathematics, The University of Jordan, 2001

CSU Chancellor's Office Faculty Recognition Certificate for contributions to redesign of technology program and Introductory Biostatistics courses, 2017.

HSU President and College of e-Learning Faculty Recognition Award for designing an online Biostatistics course and contributions to CSU Quality Assurance initiatives, HSU, 2017.

Licenses and Certifications

Digitally Enhanced Teaching Certificate

The Stanford Medical Statistics Certificate

Prior Experience

Senior Biostatistician, Santen Inc., 2021.

Associate Professor of Statistics, Humboldt State University, 2019-2021.

Assistant Professor of Statistics, Humboldt State University, 2013-2019.

Professional Affiliations

American Statistical Association

Publications

Made, A.F., and Hasan, A., "Creating a More Equitable Computer Science Course through Peer-Mentoring." Journal of Computational Science in Colleges, 35:5, 2020.

Made, A.F., and Hasan, A., Burgess, S., Tuttle, S., and Soetaert, N., "The Effect of Peer Tutoring in Reducing Achievement Gaps: A Success Story." Journal of Computational Science in Colleges, 35:1, 2019.

Made, A.F., and Hasan, A., Tuttle, S., and Tuttle, D., "Less is More: Assessment and Student Learning in Computer Science Education." Journal of Computational Science in Colleges, 34:4, 2019.

Hasan, A., and Hajra, S.G. "Using Oral Presentations to Facilitate Learning Statistics." The proceedings of the Conference on Research in Undergraduate Mathematics Education, 2017.

Hasan, A., Ning, W., and Gupta, A.K., "A non-central Skew t- Distribution with Applications to Environmental Data." Advances and Applications in Statistics, 49:2, 2016.

Hasan, A., Ning, W., and Gupta, A.K. "An Information-Based Approach to the Change-Point Problem of the Non-central Skew T Distribution with Applications to Stock Market Data." Sequential Analysis: Design Methods and Applications, 33:4, 2014.

Su, S., Hasan, A., and Ning, W. "The RS Generalized Lambda Distribution Based Calibration Model." International Journal of Statistics and Probability, 2:1, 2013.

Presentations

“Managing a REU during a Global Health Pandemic”. Contributed webinar at the Lilly Conference on Teaching and Learning”, 2021.

"Integrating Technology and Collaborative Activities to Facilitate Engaged Learning." The Lilly Conference for innovative teaching, San Diego, CA, 2020.

"A Technology-Enhanced, Flipped Course Design to Foster Student Understanding of Statistics." Contributed talk, The Joint Mathematics Meeting, Denver, CO, 2020.

"An Introduction to the Change-Point Problem and Its Applications." HSU Mathematics Department Colloquium talk, Arcata, CA, 2018.

"Integrating Oral Presentations in Mathematics Content Courses for Pre-service Teachers." Research in Undergraduate Mathematics Education Conference, Pittsburgh, PA, 2016.

"Oral Presentations: An Alternative Practice in Assessing Student Learning in Mathematics and Statistics." Lilly Conference on Evidence-Based Teaching and Learning, Newport Beach, CA, 2016.

"An Information-Based Methodology for the Change-Point Problem under the Non-central Skewed t-Distribution with Applications." Fourth International Workshop in Sequential Methodologies invited talk, University of Georgia, Athens, GA, 2013.

"Flexible Families of Skew t Distributions with Applications." Joint Mathematics Meeting, San Diego, CA, 2013.

Project Experience

Used topological data analysis to model COVID-19 hospitalization rates.

Provided statistical support for phase 2 clinical trials in ophthalmology.

Developed a model for long-tailed data and used it to model the concentrations of heavy metals in soil samples.

Used change-point detection to study stock market data and detect the location of change-points.

Conducted pedagogical experiments to assess the effectiveness of some innovative teaching, student support, and course design methods.

Mentored graduate research in studying the populations of endangered species.

Provided statistical consulting support for student research projects that involve applying statistics in forestry, wildlife management, fisheries, botany, chemistry, public health, education, and kinesiology.

Used multivariate statistics to study heart disease population and identify risk factors for heart disease.

Used MS Excel, R, and SAS for multiple research and consulting projects.

Additional Education & Training

Thinking Critically: Interpreting Randomized Clinical Trials, Stanford Online, 2020.

SAS Visual Data Mining and Machine Learning on SAS Viya: Interactive Machine Learning, 2020.

Statistics for Data Science, Mathematical Association of America (MAA) mini-course, 2020.

Advanced R Programming, 2019.

Research Grants

Center for Undergraduate Research in Mathematics (CURM) grant to support year-long research experience for undergraduates (REU), an interdisciplinary collaboration between two institutions to train students in Topological Data Analysis, 2020-2021.

CSU Math and Science Teaching Initiative funds to support the Statistical Consulting & Computing Lab, 2020-2021.

CSU Chancellor's Office Funded Grant to redesign Introductory Biostatistics course to improve student

success; part of Course Redesign with Technology program with summer workshop, year-long collaboration, and training, 2016-2017.