



Exponent®
Engineering & Scientific Consulting

Thomas Brown, Ph.D.

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Professional Profile

Dr. Brown provides consulting services related to statistics, reliability, data analysis and data visualization. He has experience with measurement system analysis, warranty analysis, manufacturing data, medical devices, environmental data and health outcomes data, and he has particular specialties in dashboard development and automotive statistics.

Dr. Brown's areas of statistical expertise include reliability analysis, design of experiments, sampling plans, regression, response surface modeling (RSM), spatial analysis, time-series analysis and statistical modeling.

Dr. Brown has experience using large databases including NASS CDS/CISS, NASS GES/CRSS, FARS, NEISS and NHTSA VOQ. He has expertise in harvesting and cleaning large volumes of data files with various formats including Word, text, PDF, Excel and csv. He also has expertise in gathering data through web scraping. He is highly proficient with statistical computing programs R, JMP and SAS, and the dashboard building program Tableau. He also has experience with SAS, Matlab and Python.

Before joining Exponent, Dr. Brown attended the University of Michigan where he served as a graduate student consultant at the center for statistical consultation and research (CSCAR). His thesis research is on the analysis of spatial data in a Gaussian framework.

Academic Credentials & Professional Honors

Ph.D., Statistics, University of Michigan, Ann Arbor, 2014

M.A., Statistics, University of Michigan, Ann Arbor, 2012

B.S., Mathematics, University of Rochester, 2008

Licenses and Certifications

Six Sigma Green Belt Certification (CSSGB)

Professional Affiliations

American Statistical Association

American Society for Quality – ASQ

Society of Automotive Engineers – SAE

Publications

M. Davis, C. Mkandawire, T. Brown, S. Pasquesi. Incidence and Mechanism of Head, Cervical Spine, and Lumbar Spine Injuries for Occupants in Low- to Moderate-Speed Rear-End Collisions. SAE Technical Paper, 2021-01-0900, 2021.

M. Davis, C. Mkandawire, T. Brown, S. Pasquesi. Incidence and Mechanism of Head, Cervical Spine, Lumbar Spine, and Lower Extremity Injuries for Occupants in Low- to Moderate-Speed Frontal Collisions. SAE Technical Paper, 2021-01-0902, 2021.

Yaek, J., Brown, T., and Goertz, A., "Accident Statistical Distributions from NASS CDS - An Update," SAE Technical Paper 2020-01-0518, 2020.

Hsing, Tailen; Brown, Thomas; Thelen, Brian. Local intrinsic stationarity and its inference. Ann. Statist. 44 (2016), no. 5, 2058--2088.

Presentations

Soderborg N., Brown T., Operational and Analytic Dashboards: Visualizing Complex Organizational Data. American Society for Quality, Quality 4.0 Summit, Dallas TX, November 19, 2019.

Brown, T. Assessing the Agreement of Multiple Measurement Systems. Presentation, Spring Research Conference, Chicago, IL, May 27, 2016.

Brown, T. How to analyze spatial data of different types. Presentation, American Statistical Association Meeting, Detroit, MI, January 12, 2016.

Peer Reviews

The Annals of Statistics