MARK J. NIGRINI

Resume (October 7, 2024)

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Morgantown, WV 26505

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Education:

Ph.D., University of Cincinnati, United States of America
M.B.A., University of Stellenbosch, South Africa
B.Com.(Hons), University of Cape Town, South Africa

Professional Certification:

Chartered Accountant (South Africa) (inactive)

Teaching Interests:

Forensic Accounting
Archival accounting research
Data Analytics
Management information systems

Research Focus:

My research focus is the detection of anomalies and inconsistencies in public and private sector accounting data using mathematical and statistical-based analytic techniques. My most frequently researched topic is the mathematical phenomenon known as Benford's Law, which gives the expected patterns of the digits in tabulated numerical data. These expected patterns are a valuable tool for data analysts in general and to auditors specifically in identifying biases, misstatements, fraud, and other types of irregularities. My current work provides insights into (a) the theory underlying the use of Benford's Law in data interrogation settings and (b) the correct application of Benford's Law to various types of data to detect irregularities and regularities from digital patterns. My current research focuses on integrating artificial intelligence (AI) into forensic accounting and fraud investigations and the link between professional ethics and AI.

Current Academic Position

2013-2019: Assistant Professor, College of Business and Economics, West Virginia University.
2019-current: Associate Professor, College of Business and Economics, West Virginia University.
Undergraduate classes: Fraud examination
Graduate classes: Fraud data analysis, advanced accounting technology, accounting decision-making, and a research methods seminar.

Previous Positions

Associate Professor, School of Business, The College of New Jersey, Ewing, NJ.
Assistant/Associate Professor, Saint Michael's College, Colchester, Vermont.
Visiting Assistant, Southern Methodist University, Dallas, Texas.
Research Fellow at The Ernst & Young Center for Auditing Research and Advanced Technology.
Assistant Professor, Saint Mary's University, Halifax, Nova Scotia, Canada.

Refereed Academic Publications:

An Examination of and a Commentary on the Increased Length of Published Research Papers, *Journal of Forensic Accounting Research*, Volume 7 (1), 2022, pp. 151-164.

Estimating the Excess Deaths in 2020 Using Time-Series Analysis, *Journal of Forensic & Investigative Accounting*, Volume 14 (2), 2022, pp. 177-190.

Using Analytic Geometry to Quantify the Period-to-Period Changes in an Array of Values (with William Karstens), *Managerial Auditing Journal*, Volume 36 (1), 2021, pp. 17-39.

The Telltale Patterns of the Numbers Used in Fraud Schemes, *Managerial Auditing Journal*, Volume 34 (5), 2019, pp. 606-626.

Identity Theft Tax Refund Fraud: An Analysis of the Fraud Schemes Using IRS Investigation Summaries (with James Peters), *Journal of Forensic & Investigative Accounting*, Volume 10 (1), 2018, pp. 38-55.

Audit Sampling Using Benford's Law: A Review of the Literature with Some New Perspectives, *Journal of Emerging Technologies in Accounting,* Volume 14 (2), 2017, pp. 29-46.

Biases in the Reporting of Hepatocellular Carcinoma Tumor Sizes on the Liver Transplant Waiting List (with M. Samoylova, J. Dodge, and J. Roberts), *Hepatology*, Volume 66 (4), 2017, pp. 1144-1150.

An Analysis of Tax Evasion Drivers in the Light of the Richard Hatch Tax Evasion Saga, *Journal of Forensic and Investigative Accounting*, Volume 9 (2), 2017, pp. 849-869.

The implications of the similarity between fraud numbers and the numbers in financial accounting textbooks and test banks, *Journal of Forensic Accounting Research*, Volume 1 (1), 2016, A1-A26.

Persistent Patterns in Stock Returns, Stock Volumes, and Accounting Data in the U.S. Capital Markets. *Journal of Accounting, Auditing, and Finance*, Volume 30 (4), 2015, pp. 541-557.

Data diagnostics using second-order tests of Benford's Law (with Steven J. Miller), *Auditing: A Journal of Practice and Theory*. Volume 28 (2), 2009, pp. 305-324.

Order Statistics and Benford's Law (with Steven J. Miller), *International Journal of Mathematics and Mathematical Sciences*, Volume 2008, 2008, Article ID 382948, 19 pp.

Using Key Performance Indicators and Risk Measures in Continuous Monitoring (with Arlo Johnson), *Journal of Emerging Technologies in Accounting*, Volume 5, 2008, pp. 65-80.

The Modulo 1 Central Limit Theorem and Benford's Law for Products (with Steven J. Miller), *International Journal of Algebra*, Volume 2 (1-4), 2008, pp. 119-130.

Benford's Law Applied to Hydrology Data – Results and Relevance to other Geophysical Data (with Steven J. Miller), *Mathematical Geology*, Volume 39 (5), 2007, pp. 469-490.

Monitoring Techniques Available to the Forensic Accountant, *Journal of Forensic Accounting*, Volume 7 (2), 2006, pp. 321-344.

An Assessment of the Change in the Incidence of Earnings Management Around the Enron-Andersen Episode, *Review of Accounting and Finance*, Volume 4 (1), 2005, pp. 92-110.

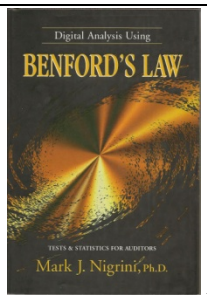
Computer Assisted Analytical Procedures using Benford's Law (with Philip D. Drake), *Journal of Accounting Education*, Volume 18 (2), 2000, pp. 127-146.

The Use of Benford's Law as an Aid in Analytical Procedures (with Linda J. Mittermaier), *Auditing: A Journal of Practice and Theory*, Volume 16 (2), 1997, pp. 52-67.

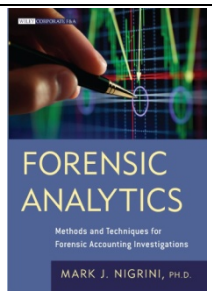
Digital Analysis and the Reduction of Auditor Litigation Risk, *Proceedings of the 1996 Deloitte & Touche/University of Kansas Symposium on Auditing Problems*, May 1996, pp. 69-81.

A Taxpayer Compliance Application of Benford's Law, *The Journal of the American Taxation Association*, Volume 18 (1), 1996, pp. 72-91.

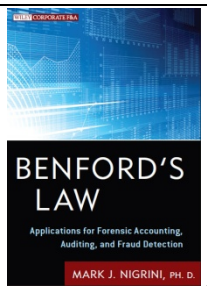
Published Books (Publishing Houses)



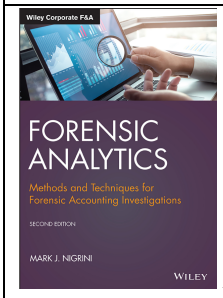
Digital Analysis Using Benford's Law: Tests & Statistics for Auditors, 2000, Global Audit Publications, Vancouver, BC (Canada). 296 pages, Out of print.



Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations, 2011, John Wiley & Sons, Inc., Hoboken, NJ. 479 pages.



Benford's Law: Applications for Forensic Accounting, Auditing, and Fraud Detection, 2012, John Wiley & Sons, Inc., Hoboken, NJ. 350 pages.



Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations, Second Edition, 2020, John Wiley & Sons, Inc., Hoboken, NJ. 544 pages.

Practitioner Publications:

Using ChatGPT's Document Analysis for New Insights and Productivity Gains, *Fraud Intelligence*, forthcoming December/January 2025.

Using Benford's Law to Reveal Journal Entry Irregularities, *Journal of Accountancy*, September 2022, pp. 12-20.

Dusting your Data for the Fingerprints of Fraud, *Fraud Magazine*, Vol. 35 (6) Nov/Dec 2020, pp. 32-39.

Round Numbers: A Fingerprint of Fraud, *Journal of Accountancy*, May 2018, pp. 36-42.

Lessons from an $8 million Fraud (with Nathan Mueller), *Journal of Accountancy*, August 2014, pp. 32-37.

Inspiration from Beethoven's Sixth, *Internal Auditor*, August 2005, pp. 52-56.

Vital Statistics, *Tolley's Practical Tax Service*, Volume 21 (26), 13 December 2000.

Estimating the Impact of Y2K Processing Errors, *IT Audit Forum*, Volume 2 (12), June 1999.

Fraud Detection: I've Got Your Number, *Journal of Accountancy*, May 1999, pp. 79-83.

The Peculiar Patterns of First Digits, *IEEE Potentials*, April/May 1999, pp. 24-27.

Computers and Auditing: Adding Value with Digital Analysis*, Internal Auditor*, Feb 1999, pp. 21-23.

Using Digital Frequencies to Detect Fraud, *The White Paper*, April/May 1994, pp. 3-6.