

The AI Audit: Accountability, Integrity, and the Future of Finance

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About the Editors



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Shashank is an experienced audit and compliance leader with over 13 years of expertise in delivering audit, risk management, governance, advisory, regulatory remediation, and technology services to address complex business challenges. His core strengths include technology audit solutions, information security maturity assessments, compliance program management, and technology risk oversight—particularly with a strong emphasis on emerging technologies such as artificial intelligence and machine learning. Throughout his career, Shashank has collaborated with cross-functional teams across the federal and financial sectors to strengthen cybersecurity frameworks and enhance organizational compliance programs. He holds a Master of Science degree in Management Information Systems from Texas A&M University.



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Ashutosh Chandra Jha is a Network and Security engineer at a “Trading firm” in New York, with over a decade of experience in designing and securing high-performance networks. He specializes in network security and optical networking. Ashutosh has led the deployment of metropolitan optical fiber networks using ADVA’s DWDM and Ciena’s RLS platforms, optimizing 10G and 100G systems for low-latency trading environments. His expertise in coherent optics and ROADMs enhances network scalability. In security, he spearheaded global Cisco AnyConnect SSL VPN deployments and revamped DMZ architectures with VXLAN and BGP EVPN, ensuring robust data center integration. Ashutosh’s work in AI-driven network design includes leveraging InfiniBand switches for GPU-optimized data centers and exploring RDMA over Converged Ethernet (RoCE) for high-performance computing. Previously, at Virtu Financial and NASDAQ, he automated security operations with Python and implemented advanced firewalls with IPS and DoS prevention. Certified as an Optical Network Engineer and a Product Management expert from Kellogg, Ashutosh combines technical prowess with strategic insight, driving innovation in secure, AI-enhanced network solutions.

Preface

In an era where artificial intelligence and digital transformation are rapidly redefining every aspect of our world, the auditing profession stands at a pivotal crossroads. The *AI Audit: Accountability, Integrity, and the Future of Finance* emerges from the critical need to understand how audit practices must evolve—technologically, ethically, and strategically—to remain relevant in the age of algorithms. This volume brings together diverse voices from academia, industry, and research to explore how AI-driven technologies are reshaping audit methodologies, compliance systems, risk frameworks, and organizational accountability. Each chapter serves not only as an academic investigation but also as a practical guide for stakeholders navigating the complex interplay between automation, financial oversight, cyber-resilience, and governance. We envisioned this book as a forward-looking resource that highlights emerging challenges and presents actionable insights on integrating AI responsibly into audit functions. Whether through continuous auditing powered by cloud infrastructure, risk-aware software security, or AI-enhanced HR compliance systems, the aim is to present a holistic picture of the evolving audit landscape. Beyond technical advancements, the discussion extends to the ethical imperatives and societal impacts of these changes, emphasizing the shared responsibility of all stakeholders. The book recognizes that while automation enhances efficiency, it also demands renewed vigilance in upholding trust, transparency, and fairness.

As editors, our mission has been to curate scholarship that is innovative, accessible, and impactful. We hope that *The AI Audit* will serve as a trusted companion for auditors, regulators, technologists, and business leaders seeking clarity and vision in the midst of digital disruption. In doing so, we aspire to contribute meaningfully to the global conversation on the future of financial integrity in an increasingly automated world, inspiring ongoing dialogue, reflection, and action.

Shashank Reddy Nandi
Ashutosh Chandra Jha

Acknowledgement

This book would not have been possible without the valuable contributions of a passionate and diverse group of researchers, professionals, and domain experts who have lent their time, expertise, and insight to this interdisciplinary endeavor. We would like to express our sincere gratitude to all the chapter authors whose deep commitment to advancing knowledge in audit technology, cybersecurity, compliance, and artificial intelligence is reflected across these pages. Their thought-provoking perspectives and practical frameworks form the foundation of this volume, providing readers with both depth and clarity on complex subjects. Our appreciation also extends to QTanalytics® for their unwavering support in bringing this publication to life. Their dedication to promoting academic excellence and facilitating collaborative scholarship was instrumental in shaping this project. Special thanks are due to the peer reviewers and editorial team for their rigorous evaluations and constructive guidance, which significantly enhanced the quality of the work. Their efforts ensured that each chapter meets the highest standards of clarity, rigor, and relevance. We are especially grateful to the academic institutions and organizations that encouraged our contributors to engage with this emerging field and allowed them the intellectual freedom to innovate. Their encouragement of interdisciplinary inquiry and applied research helped foster the collaborative spirit that this book embodies. Finally, we thank our readers—students, researchers, practitioners, and policy-makers—who continue to challenge the boundaries of knowledge. It is for you that this book was created, and we hope it inspires new conversations, collaborations, and transformations in the world of AI-powered auditing. May these pages spark curiosity, critical thinking, and purposeful innovation as we collectively shape the future of responsible technology in finance and beyond.

Shashank Reddy Nandi
Ashutosh Chandra Jha

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