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Artificial Intelligence in mobile check capture: Innovations and implications in Mitek Systems Technology

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Abstract

This article examines the integration of artificial intelligence in mobile check capture technology, with specific focus on implementations by Mitek Systems. The article analyzes how AI algorithms enhance image quality, automate optical character recognition, facilitate real-time fraud detection, and streamline data validation processes in mobile banking applications. The article evaluates the technological architecture that enables these systems to significantly reduce manual intervention while maintaining regulatory compliance with banking standards. Additionally, the article explores the continuous learning capabilities of these AI systems that adapt to diverse check formats and handwriting variations. Findings indicate that AI-enhanced mobile check capture represents a transformative development in banking technology that simultaneously improves user experience, operational efficiency, and security protocols. This article contributes to the understanding of how financial institutions can leverage artificial intelligence to modernize traditional banking processes while addressing emerging challenges in digital banking security.

Keywords: Artificial intelligence; Mobile Banking; Check Capture Technology; Fraud Detection; Optical Character Recognition

1. Introduction

1.1. Background on Mobile Check Deposit Technology

Mobile check deposit technology has revolutionized the banking landscape by enabling customers to deposit checks remotely using their smartphones or tablets. This advancement, which began gaining widespread adoption in the early 2010s, eliminated the need for physical branch visits and transformed check processing workflows [1]. Remote deposit capture technology placed sophisticated banking capabilities directly into consumers' hands, marking a significant shift in customer-bank interactions. The evolution of this technology has been characterized by continuous improvements in user experience, processing efficiency, and security protocols.

1.2. Significance of AI Integration in Banking Systems

The integration of Artificial Intelligence (AI) into banking systems represents a pivotal development in the financial technology sector. AI technologies have enhanced numerous banking operations, from customer service to risk assessment, with particularly transformative effects on check processing systems. AI implementation in banking has streamlined operations, improved decision-making processes, and strengthened security measures across various banking functions [2]. In the context of mobile check capture, AI algorithms facilitate image enhancement, data extraction, validation, and fraud detection—capabilities that were previously unattainable with conventional technologies.

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1.3. Mitek Systems as an Industry Leader

Mitek Systems has emerged as an industry leader in mobile check deposit technology, pioneering AI-enhanced solutions that are now deployed across numerous financial institutions. Their technology combines sophisticated image processing capabilities with machine learning algorithms to provide seamless check capture experiences. Mitek's solutions have been widely adopted by financial institutions seeking to modernize their check processing workflows while maintaining regulatory compliance and security standards.

1.4. Research Objectives and Paper Structure

This paper aims to examine the technological architecture, implementation methodologies, and operational impacts of AI in mobile check capture systems, with particular attention to Mitek's implementations. The research will analyze how AI enhances image quality, automates information extraction, facilitates fraud detection, and streamlines processing workflows. The subsequent sections of this paper are structured as follows: Section 2 explores AI-enhanced image processing techniques; Section 3 examines advanced optical character recognition capabilities; Section 4 analyzes fraud detection and security mechanisms; Section 5 discusses data validation and processing efficiency; Section 6 addresses regulatory compliance considerations; and Section 7 concludes with an exploration of future directions and implications for the banking industry.

2. AI-enhanced image processing

2.1. Image Quality Improvement Algorithms

AI-enhanced image processing represents a cornerstone technology in modern mobile check capture systems. Advanced algorithms now facilitate automatic enhancement of check images captured in suboptimal conditions, addressing challenges such as poor lighting, low resolution, and image distortion. These intelligent systems employ neural networks trained on vast datasets of check images to recognize and remediate common quality issues. The AI-driven approach enables real-time processing that significantly improves the quality of captured images without requiring specialized photography skills from users [3]. This technological advancement ensures that check images meet the quality standards necessary for accurate downstream processing.

2.2. Automated Orientation Detection and Correction

One of the most significant advancements in mobile check capture is automated orientation detection and correction. As highlighted by Kumar, Bhushan, et al., AI algorithms can instantly analyze a check image's orientation and automatically adjust it to the correct alignment [3]. This capability eliminates processing errors that previously resulted from improper check positioning during capture. The orientation correction systems utilize convolutional neural networks to identify key features of check layouts, determining their spatial orientation regardless of how the user positions their mobile device during capture. This automated correction occurs seamlessly in the background, maintaining a frictionless user experience.

2.3. Real-time Feedback Mechanisms

Modern mobile check capture applications incorporate AI-powered real-time feedback mechanisms that guide users through the image capture process. These intelligent systems continuously analyze the camera feed to detect potential issues such as blur, shadows, or improper framing, providing immediate guidance to users before image capture is completed. The feedback appears as visual cues or instructions that help users adjust their positioning or lighting conditions. This proactive approach significantly reduces the need for multiple capture attempts, improving overall user satisfaction while simultaneously enhancing the quality of submitted check images [3].

2.4. Comparative Analysis with Traditional Capture Methods

When compared to traditional capture methods, AI-enhanced mobile check capture demonstrates substantial improvements across multiple performance metrics. Conventional check processing required physical transportation of paper checks, manual scanning, and human verification—a process that was time-consuming, resource-intensive, and prone to errors. The introduction of AI-driven approaches has transformed this workflow by automating image correction, validation, and processing. Research by Kumar, Bhushan, et al. demonstrates that AI-enhanced mobile capture achieves higher accuracy rates with significantly reduced processing times compared to traditional methods [3]. Additionally, the AI approach reduces operational costs by minimizing the need for manual intervention and physical infrastructure, while simultaneously improving the customer experience through faster processing and greater convenience.

Table 1 Comparison of Traditional vs. AI-Enhanced Mobile Check Capture Systems [3]

Feature	Traditional Check Capture	AI-Enhanced Mobile Check Capture
Image Quality Control	Manual review and adjustment	Automated enhancement algorithms
Orientation Handling	Manual alignment required	Automated detection and correction
User Guidance	Static instructions	Real-time interactive feedback
Processing Time	Batch processing with delays	Real-time processing
Error Detection	Post-processing verification	Pre-submission validation
Infrastructure Requirements	Specialized equipment	Standard mobile devices

3. Advanced optical character recognition

3.1. AI-Powered Text Extraction Techniques

Advanced Optical Character Recognition (OCR) technology forms the foundation of modern mobile check capture systems, enabling the extraction of critical information from check images. Contemporary OCR systems leverage artificial neural networks that have been trained on extensive datasets of financial documents, allowing them to recognize and extract text from various check formats and layouts. These AI-powered techniques can identify key fields on a check, including the amount, date, payee information, account numbers, and routing details [4]. The neural network architecture enables the system to handle variations in check designs across different financial institutions while maintaining high accuracy levels. This technological approach represents a significant advancement over traditional OCR methods that relied on template matching and were less adaptable to variations in document structure.

3.2. Handwriting Recognition Capabilities

One of the most challenging aspects of check processing is handwriting recognition, particularly for the courtesy amount (numerical) and legal amount (written in words) fields. Modern AI-based mobile check capture systems implement sophisticated handwriting recognition algorithms capable of interpreting diverse handwriting styles, from highly stylized to casual script. As documented by Muhamediyeva, Sotvoldiyev, et al., these systems utilize deep learning models that have been trained on diverse handwriting samples to recognize patterns and contextual relationships between characters [5]. The AI models can distinguish between similar-looking characters and interpret writing even when it contains unusual strokes, slants, or connecting patterns. This capability significantly improves the accuracy of information extraction from handwritten portions of checks, which historically presented major challenges for automated processing systems.

3.3. Field Validation Methodologies

Mobile check capture systems employ comprehensive field validation methodologies to ensure the accuracy of extracted information. AI algorithms verify that the extracted data conforms to expected formats and internal consistency rules. For example, the system validates that the courtesy amount matches the legal amount, that the account number follows the expected pattern for the identified financial institution, and that the check number is consistent with the MICR (Magnetic Ink Character Recognition) line information [4]. The validation process also includes cross-referencing between fields to identify potential discrepancies or errors. These methodologies apply contextual understanding to the validation process, recognizing that certain fields have specific formats or expected relationships with other fields on the check.

3.4. Error Reduction Metrics

The implementation of AI-driven OCR in mobile check capture has led to significant reductions in processing errors compared to earlier technologies. The error reduction capabilities can be attributed to several technological advancements in the OCR pipeline. First, the use of convolutional neural networks enables more accurate character recognition across various fonts and handwriting styles [5]. Second, contextual analysis allows the system to interpret ambiguous characters based on their surrounding information. Third, continuous learning mechanisms enable the system to improve over time as it processes more checks and receives feedback on its performance. The error reduction metrics for these systems typically evaluate performance across various categories including character-level accuracy, field-level accuracy, and overall document processing accuracy. Research indicates that modern AI-enhanced OCR

systems demonstrate substantially lower error rates compared to conventional OCR technologies, particularly for handwritten content and documents captured under suboptimal conditions [4].

4. Fraud Detection and Security Mechanisms

4.1. Real-time Fraud Detection Algorithms

Modern mobile check capture systems implement sophisticated real-time fraud detection algorithms that continuously analyze checks during the capture and processing workflow. These algorithms evaluate multiple aspects of the check simultaneously, including image characteristics, transaction patterns, and user behavior. Drawing parallels from the telecom industry's fraud detection approaches as described by Niu, Jiao, et al., check processing systems now implement multi-layered detection mechanisms that can identify potential fraud indicators within milliseconds of submission [6]. The algorithms examine check attributes such as signature consistency, alteration indicators, and document authenticity markers. Machine learning models trained on historical fraud cases enable these systems to recognize subtle anomalies that might escape human detection. This real-time capability allows financial institutions to flag suspicious checks before completing the deposit process, significantly reducing fraud-related losses.

4.2. Risk Scoring Systems

Risk scoring systems form a critical component of the fraud detection framework in mobile check capture applications. These systems assign quantifiable risk values to check deposits based on numerous variables analyzed through AI models. As demonstrated by Grigorescu, Minea, et al. in their contextual risk scoring research, effective systems consider both historical patterns and contextual factors when generating risk assessments [7]. For check deposits, these contextual factors include the check amount relative to typical deposit behavior, the relationship between the check issuer and recipient, and the consistency with established user transaction patterns. The resulting risk scores enable financial institutions to implement appropriate review protocols, with higher-risk transactions receiving more stringent verification procedures. This tiered approach optimizes resource allocation while maintaining robust security measures across all transactions.

Table 2 Fraud Detection Mechanisms in Mobile Check Capture [6, 7]

Fraud Type	Detection Mechanism	Risk Indicators
Altered Checks	Image analysis algorithms	Inconsistent pixel patterns
Counterfeit Checks	Template matching	Deviation from known formats
Duplicate Deposits	Cross-system verification	Matching check identifiers
Signature Fraud	Behavioral biometrics	Stroke pattern anomalies
Account Takeover	Contextual analysis	Unusual deposit patterns
Check Kiting	Transaction timing analysis	Accelerated deposit/withdrawal cycles

4.3. Pattern Recognition for Fraud Prevention

Pattern recognition represents a key technological advancement in check fraud prevention strategies. AI-powered systems now identify patterns across multiple dimensions, including temporal patterns (timing of deposits), spatial patterns (geographic locations), and behavioral patterns (user interaction with the mobile application). By analyzing these patterns, the system establishes baseline profiles for normal transaction activities and can readily identify deviations that may indicate fraudulent activity [6]. The pattern recognition algorithms continuously refine their models through machine learning techniques, gradually improving their predictive capabilities as they process more transactions. This adaptive approach allows the system to respond to emerging fraud techniques that have not been previously documented, providing protection against novel attack vectors.

4.4. Case Studies of Fraud Mitigation

The implementation of AI-driven fraud detection in mobile check capture has yielded significant outcomes across various financial institutions. While specific case studies remain largely confidential due to security considerations, generalized frameworks demonstrate the effectiveness of these systems. Drawing from methodologies similar to those outlined by Grigorescu, Minea, et al., financial institutions have developed comprehensive approaches that combine

probabilistic models with attack graph analysis to anticipate and prevent fraudulent activities [7]. These approaches typically involve the deployment of multi-layered defense mechanisms that correlate data across various transaction points. The effectiveness of these systems is evident in their ability to identify complex fraud schemes that involve multiple actors or sophisticated technological manipulation. By analyzing patterns across entire transaction ecosystems rather than examining checks in isolation, these systems have successfully mitigated various fraud attempts, including altered checks, counterfeit documents, and unauthorized deposits.

5. Data Validation and Processing Efficiency

5.1. Cross-referencing Methodologies with Banking Databases

Mobile check capture systems employ sophisticated cross-referencing methodologies to validate check data against banking databases in real-time. These validation processes compare the extracted information from the check against multiple data sources, including account records, customer profiles, and transaction histories. Drawing from the ETC-based methodology framework described by Lu, Li, et al., modern banking systems implement multi-layered validation protocols that systematically verify data consistency and authenticity [8]. The cross-referencing process typically begins with basic format validation, ensuring that account numbers, routing numbers, and check numbers conform to expected patterns. Subsequently, the system performs deeper contextual validation by comparing the transaction against the customer's historical banking behavior and account parameters. This comprehensive approach enables the identification of anomalies that might indicate data extraction errors or potentially fraudulent activities.

5.2. Processing Speed Improvements through AI

The integration of AI technologies has dramatically transformed the processing speed of mobile check capture systems. Traditional check processing workflows required substantial manual review and batch processing approaches that introduced significant delays between deposit and fund availability. Contemporary AI-powered systems implement parallel processing architectures that simultaneously execute multiple validation and verification steps. As demonstrated in research related to ETC-based methodologies, AI models can significantly accelerate complex validation processes by prioritizing critical paths and identifying shortcuts in the verification workflow [8]. This optimization capability enables the system to allocate computational resources efficiently, focusing on high-risk or complex transactions while streamlining the processing of routine deposits. The resulting improvement in processing speed enhances both operational efficiency for financial institutions and customer satisfaction through faster funds availability.

5.3. Reduction in Manual Intervention Requirements

One of the most significant operational benefits of AI-enhanced check processing is the substantial reduction in manual intervention requirements. Previous check processing systems required human review for ambiguous cases, exceptions, and quality assurance processes. Modern systems implement intelligent exception handling that automatically resolves many issues that previously required manual review. The AI models can interpret ambiguous characters, reconcile minor discrepancies between the courtesy amount and legal amount, and identify appropriate correction actions for common errors [8]. This capability significantly reduces the volume of exceptions that require human attention, allowing financial institutions to redirect staff toward higher-value activities. The reduction in manual intervention not only improves operational efficiency but also enhances scalability, enabling financial institutions to handle growing transaction volumes without proportional increases in staffing requirements.

5.4. Quantitative Analysis of Efficiency Gains

The implementation of AI-driven data validation in mobile check capture has yielded substantial efficiency gains across multiple operational dimensions. Research applying methodologies similar to those proposed by Lu, Li, et al. has enabled the development of comprehensive frameworks for evaluating these efficiency improvements [8]. These analytical frameworks typically assess performance across several key metrics, including processing time per transaction, exception rates, manual review requirements, and operational costs. The efficiency analysis examines both direct processing improvements and secondary benefits such as reduced error correction costs and enhanced customer satisfaction. By establishing baseline measurements and conducting controlled comparisons between traditional and AI-enhanced processes, financial institutions can quantify the specific operational improvements achieved through technological implementation. These analyses consistently demonstrate that AI-driven approaches deliver substantial efficiency gains while simultaneously maintaining or improving accuracy levels compared to conventional processing methods.

6. Regulatory Compliance and Reporting

6.1. Adherence to Check 21 Act Requirements

Mobile check capture systems must rigorously comply with the Check Clearing for the 21st Century Act (Check 21), which established the legal framework for electronic check processing. This legislation enables financial institutions to create and process substitute checks or image replacement documents that have the same legal standing as original paper checks. AI-enhanced mobile capture systems implement specific technological features to ensure compliance with Check 21 requirements, including image quality standards, metadata preservation, and transmission protocols. These systems must maintain sufficient image resolution to capture all essential check elements while implementing safeguards to prevent alteration or tampering. The regulatory compliance mechanisms operate as an integrated component of the processing workflow, automatically verifying that each captured check image meets the necessary legal requirements before transmission to the financial institution's processing systems.

6.2. Anti-money Laundering (AML) Compliance

Anti-money laundering compliance represents a critical regulatory dimension for mobile check capture systems. As Jensen, Iosifidis, et al. demonstrate in their research on statistical approaches to money laundering detection, AI technologies have transformed AML compliance capabilities [9]. Modern mobile check capture systems implement sophisticated algorithms that analyze transaction patterns to identify potential money laundering indicators, such as structuring (breaking large amounts into smaller deposits), unusual transaction frequencies, or atypical deposit sources. These systems evaluate each check deposit within the broader context of the customer's transaction history and relationship with the financial institution. By applying machine learning models to transaction data, financial institutions can identify subtle patterns that might indicate suspicious activities, enabling more effective compliance with AML regulations while minimizing disruption to legitimate customer transactions.

6.3. Automated Reporting Capabilities

AI-enhanced mobile check capture systems feature robust automated reporting capabilities that streamline regulatory reporting requirements. Drawing from information extraction methodologies explored by Plachouras and Leidner, these systems can automatically generate standardized reports for regulatory submissions while maintaining audit trails of all processing activities [10]. The automated reporting systems categorize and document exceptions, suspicious activities, and compliance verifications, creating comprehensive records that satisfy regulatory examination requirements. This automation significantly reduces the administrative burden associated with regulatory compliance while simultaneously improving reporting accuracy and consistency. Financial institutions can configure these reporting systems to align with specific regulatory requirements across different jurisdictions, enabling efficient operations in complex regulatory environments.

6.4. Legal Framework Considerations

The implementation of AI in mobile check capture necessitates careful consideration of broader legal frameworks beyond specific banking regulations. These considerations include data privacy laws, consumer protection regulations, and electronic transaction legislation. As highlighted by research on regulatory enforcement actions, financial institutions must navigate complex and sometimes overlapping legal requirements when implementing technological solutions [10]. Mobile check capture systems must incorporate features that ensure compliance with regulations such as the Gramm-Leach-Bliley Act (GLBA) for data privacy and the Electronic Funds Transfer Act (EFTA) for consumer protections. These legal framework considerations influence system design, data retention policies, and user authentication requirements. The AI components of these systems must operate within clearly defined legal boundaries, particularly regarding automated decision-making and data processing. Financial institutions typically implement comprehensive governance frameworks that ensure ongoing legal compliance as regulations evolve and as the AI systems continue to learn and adapt from operational experience.

7. Future directions

7.1. Machine Learning and Continuous Improvement Potential

The future of mobile check capture technology is closely tied to advancements in machine learning capabilities that enable continuous system improvement. Next-generation systems will likely implement more sophisticated self-learning algorithms that autonomously refine their performance based on operational data without requiring explicit reprogramming. As outlined by Mehndiratta, Arora, et al., the banking industry is moving toward adaptive AI systems

that evolve through ongoing exposure to new data patterns [11]. In the context of check processing, this evolution will manifest as increasingly accurate character recognition, more precise fraud detection, and enhanced ability to process checks under challenging conditions. Future systems may implement federated learning approaches that allow models to improve across multiple financial institutions while preserving data privacy. This collaborative improvement potential represents a significant advancement over current systems that typically rely on centralized model training and periodic updates.

7.2. Emerging Trends in Mobile Banking AI

Several emerging trends in mobile banking AI will likely shape the evolution of check capture technology in the coming years. Mehndiratta, Arora, et al. identify multimodal AI integration as a key development trajectory, where check processing systems will combine image analysis with additional data sources such as transaction histories and behavioral biometrics [11]. This integration will enable more contextual processing decisions and enhanced security features. Another significant trend is the implementation of explainable AI models that provide transparency into decision-making processes, particularly for fraud detection and risk assessment functions. Additionally, edge computing architectures will likely become more prevalent, enabling sophisticated processing to occur directly on mobile devices before transmission to banking systems. This approach would reduce data transmission requirements while improving response times and enhancing privacy. The convergence of these trends will transform mobile check capture from a discrete banking function into an integrated component of comprehensive financial intelligence systems.

Table 3 Future Trends in AI-Enhanced Mobile Check Capture [11]

Trend	Potential Application	Expected Impact
Federated Learning	Cross-bank fraud detection	Enhanced security without data sharing
Explainable AI	Transparent decision-making	Increased regulatory acceptance
Edge Computing	On-device processing	Improved speed and privacy
Multimodal AI	Combined image and behavioral analysis	More contextual fraud detection
Natural Language Processing	Enhanced communication with users	Improved user experience
Quantum Computing Applications	Advanced cryptographic security	Next-generation data protection

7.3. Research Limitations and Challenges

Despite significant advancements, mobile check capture technologies face several research limitations and implementation challenges that must be addressed to realize their full potential. Current AI models still struggle with certain edge cases, including highly stylized signatures, severely damaged checks, and novel fraud techniques that have not previously been encountered. Research by Mehndiratta, Arora, et al. highlights the challenge of balancing security requirements with user experience considerations, particularly as transaction volumes increase and customer expectations evolve [11]. Additional challenges include ensuring algorithmic fairness across diverse customer demographics, managing computational requirements for increasingly complex models, and maintaining compliance with evolving regulatory frameworks. The research community must also address the challenge of data scarcity for certain types of transactions or fraud patterns, which can limit model effectiveness. Overcoming these limitations will require interdisciplinary collaboration among researchers in computer vision, security, regulatory compliance, and behavioral economics.

7.4. Implications for Financial Institutions and Customers

The continued evolution of AI-enhanced mobile check capture will have profound implications for both financial institutions and their customers. For financial institutions, these technologies will likely accelerate the transformation of branch networks and operational models, with increasing emphasis on digital-first service delivery. As documented by Mehndiratta, Arora, et al., AI integration in banking processes frequently leads to significant operational efficiency improvements that enable resource reallocation toward high-value activities [11]. For customers, these advancements will manifest as faster funds availability, reduced friction during deposit processes, and enhanced security protections. The technology will likely continue to evolve toward more invisible and seamless integration with broader financial services ecosystems, potentially eliminating distinct "check deposit" steps in favor of integrated transaction processing. These developments may also influence check usage patterns, potentially extending the viability of checks as a payment instrument despite the proliferation of digital payment alternatives. The ultimate implication will be a banking

ecosystem where artificial intelligence serves as the foundation for increasingly personalized, secure, and efficient financial services.

8. Conclusion

The integration of artificial intelligence in mobile check capture systems represents a transformative advancement in banking technology, with far-reaching implications for operational efficiency, security, and customer experience. As examined throughout this article, AI has enhanced numerous aspects of the check processing workflow, from image quality improvement and optical character recognition to fraud detection and regulatory compliance. Mitek Systems' implementation of these technologies demonstrates how AI can simultaneously address multiple historical challenges in check processing while creating new capabilities that were previously unattainable. The continued evolution of these systems promises further improvements through machine learning refinement, multimodal integration, and edge computing implementations. While research limitations and implementation challenges remain, the trajectory of development indicates a future where check processing becomes increasingly seamless, secure, and contextually aware. Financial institutions that effectively leverage these technological capabilities will be well-positioned to meet evolving customer expectations while optimizing operational resources and maintaining robust security protections. As mobile banking continues to evolve, AI-enhanced check capture will likely serve as a model for the successful integration of artificial intelligence into essential financial services functions.

References

[1] Joseph Henkel; Justin Zhan, "Remote Deposit Capture in the Consumer's Hands," 2010 5th International Conference on Future Information Technology, Date Added to IEEE Xplore: June 10, 2010. https://ieeexplore.ieee.org/document/5482635

[2] G Divakara Reddy; Shweta Saxena, et al., "Utilization of AI for Streamlining and Optimizing Credit Decision Process and Security in Banking Sector," 2022 Sixth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud), Date Added to IEEE Xplore: December 22, 2022. https://ieeexplore.ieee.org/abstract/document/9987389

[3] Ashok Kumar; Megha Bhushan, et al., "Machine Intelligence, Big Data Analytics, and IoT in Image Processing: Practical Applications," IEEE Access, Date Added to IEEE Xplore: 2023. https://ieeexplore.ieee.org/book/10950264

[4] M Usman Raza; Ata Ullah, et al., "Text Extraction Using Artificial Neural Networks," The 7th International Conference on Networked Computing and Advanced Information Management, Publishing Date: March 2011, Date Added to IEEE Xplore: May 2, 2011. https://ieeexplore.ieee.org/abstract/document/5967532

[5] Dilnoz Muhamediyeva; Dilshodbek Sotvoldiyev, et al., "Approaches to Handwriting Recognition," 2020 International Conference on Information Science and Communications Technologies (ICISCT), Publishing Date: November 4–6, 2020, Date Added to IEEE Xplore: February 19, 2021. https://ieeexplore.ieee.org/document/9351505

[6] Kun Niu; Haizhen Jiao, et al., "A Real-Time Fraud Detection Algorithm Based on Intelligent Scoring for the Telecom Industry," 2016 International Conference on Networking and Network Applications (NaNA), Date Added to IEEE Xplore: September 12, 2016. https://ieeexplore.ieee.org/abstract/document/7564159

[7] Octavian Grigorescu; Alexandra Minea, et al., "Probability and Attack Graph Models in Contextual Risk Scoring System," 2022 21st RoEduNet Conference: Networking in Education and Research (RoEduNet), Date Added to IEEE Xplore: October 21, 2022. https://ieeexplore.ieee.org/document/9921100

[8] Deng Lu; Shanping Li, et al., "ETC-Based Methodology on Data Processing Validation," 2009 Fifth International Joint Conference on INC, IMS and IDC, Date Added to IEEE Xplore: 13 November 2009. https://ieeexplore.ieee.org/abstract/document/5331822

[9] Rasmus Ingemann Tuffveson Jensen; Alexandros Iosifidis, et al., "Fighting Money Laundering With Statistics and Machine Learning," IEEE Access, Date Added to IEEE Xplore: January 25, 2023. https://ieeexplore.ieee.org/document/10025710/citations#citations

[10] Vassilis Plachouras; Jochen L. Leidner, "Information Extraction of Regulatory Enforcement Actions: From Anti-Money Laundering Compliance to Countering Terrorism Finance," IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Date Added to IEEE Xplore: 11 February 2016. https://ieeexplore.ieee.org/abstract/document/7403660

[11] Nipun Mehndiratta; Ginni Arora, et al., "The use of Artificial Intelligence in the Banking Industry," IEEE Access, Date Added to IEEE Xplore: 16 June 2023. https://ieeexplore.ieee.org/document/10150681/citations?tabFilter=papers#citations