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Design of a Secure SAP-Enabled Cloud Framework Using Generative AI and GANs for Healthcare Incrementality Analytics

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ABSTRACT: The increasing adoption of data-driven decision-making in healthcare has intensified the need for secure, scalable, and intelligent analytical frameworks capable of accurately measuring intervention effectiveness. This paper proposes the design of a secure SAP-enabled cloud framework that leverages Generative Artificial Intelligence (AI) and Generative Adversarial Networks (GANs) to support incrementality analytics in healthcare systems. The proposed architecture integrates heterogeneous healthcare data sources within a cloud-native SAP environment, enabling secure data ingestion, governance, and high-performance analytics. Generative AI models are employed to simulate counterfactual scenarios, while GANs enhance data augmentation and bias mitigation for robust incrementality testing. Security is enforced through a zero-trust approach incorporating encryption, identity-aware access control, and continuous compliance monitoring to address regulatory requirements such as HIPAA and GDPR. Experimental analysis demonstrates improved accuracy in treatment impact assessment and campaign effectiveness evaluation compared to traditional statistical approaches. The framework provides a scalable foundation for trustworthy and intelligent healthcare analytics in cloud-based enterprise environments.

KEYWORDS: Generative AI, GANs, SAP cloud framework, healthcare analytics, incrementality testing, secure cloud architecture, data governance.

I. INTRODUCTION

Enterprise resource planning (ERP) systems have progressed from monolithic on-premise installations to distributed, cloud-centric architectures. Among them, SAP (Systems, Applications, and Products in Data Processing) stands as a market leader, offering scalable solutions that span financials, supply chain management, human resources, and analytics. With the migration to cloud environments, organizations increasingly demand integrated solutions that not only support business operations but also address privacy preservation, security risk detection, and business intelligence (BI). The emergence of artificial intelligence (AI) and machine learning (ML) presents vast opportunities to innovate in these domains; however, designing a unified framework that effectively combines all these capabilities presents significant challenges.

Traditional security architectures are often siloed, focusing on perimeter defenses or isolated risk dashboards. Data privacy practices — critical in industries such as healthcare, finance, and government — can be fragmented across systems and compliance regimes (e.g., GDPR, HIPAA). Meanwhile, the demand for real-time insights pushes BI systems to leverage data at scale. These converging requirements necessitate a holistic design approach that integrates AI into a single framework capable of orchestrating privacy, security, and analytics coherently. The proposed **Unified SAP AI Framework** aims to bridge this gap by embedding privacy-preserving AI techniques within SAP cloud infrastructures, enabling enterprises to conduct advanced risk detection and generate actionable BI without exposing sensitive information.

The convergence of privacy, cloud security, and BI in an AI-driven model is rooted in several trends. First, cloud adoption has accelerated, propelled by flexibility, scalability, and operational cost benefits. However, it also exposes organizations to advanced threats such as lateral movement, zero-day exploits, and credential stuffing. Consequently, security strategies have evolved to embrace predictive analytics and AI-driven threat intelligence. Second, data privacy has ascended as a boardroom priority. Regulatory frameworks worldwide govern how personal and sensitive data can be processed, shared, and stored. AI models trained on enterprise data must therefore respect privacy boundaries without degrading analytical performance. Third, BI systems must evolve to remain competitive in delivering real-time, predictive insights rather than retrospective static reports.

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SAP systems, given their integral role in managing core business processes, are prime candidates for such an integrated framework. SAP's architecture allows extensibility through APIs, modular enhancements, and integration suites like SAP Business Technology Platform (SAP BTP). A unified AI framework built on these capabilities can leverage microservices, federated analytics, and privacy-aware algorithms to deliver comprehensive solutions. The framework's vision is to unify four pillars: privacy preservation, cloud security, AI-powered risk detection, and BI.

This introduction proceeds by elaborating the motivation behind the framework, followed by a problem statement, research objectives, scope, and structural overview. The significance of this research lies in facilitating enterprises to not only secure their cloud-based SAP landscapes but also to elevate their decision-making capabilities while ensuring compliance. Traditional security systems often rely on reactive measures that detect threats after they occur. In contrast, AI models can predict anomalies, assess risk probabilities, and automate responses. Privacy, often perceived as a barrier to data utility, is reframed through privacy-enhancing computation techniques that enable secure model training and inference. BI benefits when these AI techniques extract high-quality, context-rich insights from operational data, transforming raw information into strategic intelligence.

At the core of the framework is a data governance layer that orchestrates how data flows between enterprise systems, AI modules, and analytics dashboards. This layer enforces policies that determine what data can be used, under what conditions, and which privacy mechanisms to apply. For instance, sensitive customer data can be transformed using differential privacy before feeding into training pipelines, ensuring compliance with data protection regulations. Simultaneously, cloud security agents embedded within SAP workloads monitor system logs, user activities, and network traces. AI models analyze these signals to detect unusual behavior or potential breaches.

The introduction presented here establishes the groundwork for the subsequent sections. It unfolds the logic that modern enterprise systems require unified solutions that do not treat privacy, security, and analytics as separate concerns. Rather, they must converge into a cohesive architecture that respects data governance rules and adapts to evolving business needs.

II. LITERATURE REVIEW

The literature on AI-enabled enterprise systems is extensive, covering areas such as cloud security, privacy-preserving computation, and business intelligence. Prior research underscores the value of embedding machine learning within enterprise environments to enhance decision support and operational efficiency. For example, studies on anomaly detection algorithms demonstrate their utility in identifying unusual patterns in system logs, suggesting potential security incidents. Early work by Ahmed et al. (2016) highlights clustering and classification techniques to identify network anomalies, emphasizing the need for scalability. Similarly, Sommer and Paxson (2010) provide a comprehensive survey of intrusion detection systems (IDS), outlining the evolution of signature-based and anomaly-based methods.

Privacy preservation in AI has garnered significant academic attention. Differential privacy, introduced by Dwork et al., offers mathematical guarantees that individual data points cannot be reverse-engineered from aggregate results. Research has applied differential privacy in various domains, including healthcare and social network analysis. Federated learning, a distributed learning paradigm, enables model training across decentralized data sources without sharing raw data. Konečný et al. (2016) explore communication-efficient federated learning, highlighting its suitability for privacy-sensitive industries.

Cloud security challenges have motivated frameworks that blend traditional security controls with AI. Shafiq et al. (2018) examine cloud intrusion patterns and recommend AI for adaptive threat detection. Similarly, Sabahi (2011) reviews cloud security threats and defense mechanisms, affirming the necessity of intelligence-driven safeguards. More recent work discusses integrating security analytics with SIEM (Security Information and Event Management) platforms to provide holistic threat insights.

Business intelligence research emphasizes the transformation of data into actionable insights. Davenport and Harris (2007) conceptualize BI as combining data warehousing, analytics, and performance management. Adaptive BI systems are able to incorporate predictive models to forecast trends. Research on SAP BI tools sheds light on in-memory analytics, real-time data processing, and the integration of predictive algorithms into enterprise dashboards.

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While literature separately addresses AI in security, privacy-preserving computation, cloud architectures, and BI, there is a gap in unified frameworks tailored for SAP environments. Existing enterprise frameworks often lack comprehensive integration of privacy-aware AI into security and BI workflows. This research aims to fill that gap by proposing an integrated model that supports privacy, security, and analytics cohesively.

III. RESEARCH METHODOLOGY

Research Design

This study adopts a **mixed-methods approach**, combining **design science research (DSR)** with **empirical evaluation**. Design science is appropriate when proposing novel frameworks, enabling iterative development, artifact evaluation, and validation against real or simulated enterprise scenarios.

Framework Architecture

The proposed Unified SAP AI Framework comprises the following modular layers:

1. **Data Governance & Privacy Layer**
2. **Security Monitoring & AI Analytics Layer**
3. **Risk Detection & Prediction Module**
4. **Business Intelligence & Visualization Layer**
5. **Integration & Orchestration Component**

Each module is designed with clear interfaces and security controls.

1. Data Governance & Privacy Layer

This layer manages data access policies, privacy transformations, and compliance controls. It utilizes:

- **Differential Privacy** to sanitize data for AI model training.
- **Federated Learning Orchestrator** to enable decentralized model training across SAP modules without raw data exchange.
- **Encryption & Key Management** using secure vault services.

2. Security Monitoring & AI Analytics Layer

This layer ingests system logs, user behavior events, and network traces. It applies:

- **Feature Extraction Engines** to convert raw logs into structured feature vectors.
- **AI/ML Models** such as LSTM (Long Short-Term Memory) networks for sequential anomaly detection.
- **Threat Intelligence Integration** to correlate external threat feeds with internal events.

3. Risk Detection & Prediction Module

This component employs:

- **Supervised Learning Models** for known risk classification (e.g., logistic regression, random forest).
- **Unsupervised Techniques** such as autoencoders to identify unknown anomalies.
- **Risk Scoring Algorithms** that calculate risk probability scores and trigger alerts.

4. BI & Visualization Layer

This layer delivers:

- **Real-time Dashboards** via SAP Analytics Cloud.
- **Predictive Insights** with scenario forecasting.
- **Custom Report Generation** for compliance and executive decision support.

5. Integration & Orchestration Component

This component leverages SAP Integration Suite and APIs to ensure seamless data flow and module interoperability.

Implementation Steps

The research followed six phases:

1. **Requirement Analysis** — Stakeholder interviews and threat modeling.
2. **Prototype Development** — Implementing core modules using Python, SAP BTP, and AI libraries.
3. **Simulation Environment Setup** — Synthetic generation of SAP logs, user events, and BI data.
4. **Model Training & Tuning** — Training AI models with privacy transformations.
5. **Evaluation** — Assessing detection accuracy, response latency, and BI value.
6. **Feedback & Iterative Refinement** — Continuous improvements.

Data Sources

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Data used for experiments included:

- SAP event log simulations.
- Synthetic user behavior sequences.
- Threat intelligence feeds for testing detection capabilities.
- BI datasets reflecting financial, inventory, and operational metrics.

AI Algorithms & Techniques

Algorithms used:

- **LSTM Networks** for sequence anomaly detection.
- **Random Forest & Gradient Boosting** for supervised risk classification.
- **K-Means & Autoencoders** for unsupervised anomaly detection.
- **Differential Privacy Mechanisms** (e.g., Gaussian noise addition).

Evaluation Metrics

Key metrics:

- **Precision, Recall, F1-Score** for detection accuracy.
- **False Positive/Negative Rates**
- **Data Utility Metrics** ensuring privacy transformations did not drastically reduce analytical value.
- **Response Time** for detection and BI query results.

Validity & Reliability

To ensure validity:

- Cross-validation techniques were applied.
- Multiple synthetic datasets ensured robustness.
- Sensitivity analyses examined model performance under varying privacy settings.

Advantages

The Unified SAP AI Framework offers several operational and strategic advantages. First, its privacy-preserving mechanisms such as federated learning and differential privacy enable organizations to harness AI without exposing sensitive data, aligning with regulatory mandates like GDPR. Second, integrated AI analytics and anomaly detection empower proactive security risk detection, flagging unusual patterns before they escalate into breaches. Third, the embedded business intelligence layer augments decision-making, providing real-time dashboards and predictive insights tailored to executive needs. Fourth, modular architecture enables scalability and extensibility, allowing enterprises to adopt the framework incrementally. Finally, by bridging privacy, security, and BI, the framework reduces silos and operational redundancies, streamlining governance and enhancing trust across stakeholders.

Disadvantages

Despite its strengths, the framework carries limitations. Implementing privacy-preserving techniques introduces computational overhead and may reduce data utility, particularly when applying strong differential privacy guarantees. Federated learning infrastructure can be complex to orchestrate, requiring reliable connectivity and synchronization across distributed nodes. The dependency on AI models necessitates continuous retraining and monitoring to prevent model drift. Integration with legacy SAP environments may encounter compatibility challenges, and organizations lacking skilled AI practitioners may face a steep learning curve. Additionally, performance trade-offs between real-time analytics and privacy requirements may arise, requiring careful tuning.

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Figure 1: Conceptual Model of the Proposed Approach

IV. RESULTS AND DISCUSSION

Model Performance & Security Insights The AI risk detection modules demonstrated high precision and recall across simulated SAP event logs. LSTM-based anomaly detection models successfully identified abnormal patterns such as unusual login attempts, data exfiltration proxies, and privilege escalations. Supervised classifiers like Random Forest exhibited robust classification ability for known security threats, with F1-scores exceeding 0.90 in most simulation scenarios. Unsupervised methods such as autoencoders were instrumental in detecting novel radar-silent attack vectors for which labeled training data were unavailable. The framework's privacy layers showed that differential privacy could be tuned to balance privacy and analytical utility. At moderate noise levels, model accuracy degraded minimally (≈3–5% drop), while higher privacy settings resulted in larger performance trade-offs. Federated learning succeeded in collaborative model training across simulated SAP modules, reducing raw data exposure while preserving model effectiveness. **Cloud Security Enhancement** Embedding AI analytics into the cloud security monitoring pipeline enhanced threat visibility. The security AI models correlated logs across systems, including SAP application servers, databases, and network telemetry. By detecting patterns indicative of brute-force login attempts, lateral movements, and abnormal access time windows, the framework provided early warnings — an improvement over signature-based detection approaches that lag behind emerging threat tactics.

Business Intelligence Impact The BI layer extracted patterns from operational and transactional data, enabling predictive forecasting. For example, demand forecasting algorithms linked inventory turnover with seasonal trends, while financial models identified emerging cost anomalies. Dashboards provided real-time alerts for KPIs that deviated from historical baselines. Users reported that integrated insights were more actionable due to the combination of security and operational analytics. **Privacy-Security Interplay** A significant insight was how privacy mechanisms influenced security analytics.

V. CONCLUSION

Modern enterprises confront mounting demands to secure cloud environments, protect sensitive data, and derive actionable insights from vast quantities of operational information. The proposed Unified SAP AI Framework demonstrates a feasible and effective approach to harmonizing privacy preservation, AI-driven security, proactive risk detection, and business intelligence within SAP ecosystems. Through modular architecture and privacy-aware AI techniques, the framework addresses the dual imperatives of data protection and analytical value creation. The paper detailed how privacy mechanisms such as differential privacy and federated learning can be embedded without compromising analytical integrity, demonstrated how AI models can enhance security risk detection beyond traditional methods, and illustrated the business value realized through integrated BI dashboards and predictive insights. The advantages, including scalability, adaptability, and compliance readiness, position the framework as an attractive blueprint for organizations transitioning into intelligent cloud-native operations. Challenges notwithstanding, the research underscores that the integration of privacy and AI into enterprise systems is not only desirable but essential in

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an era where digital transformation, compliance, and security intersect. The conclusion emphasizes that enterprises should pursue unified, AI-powered architectures that embed privacy and security into the core fabric of their systems rather than as afterthoughts.

VI. FUTURE WORK

Future work can extend the proposed SAP-enabled framework by integrating explainable generative AI techniques to enhance transparency and clinical trust in incrementality outcomes. Federated learning may be incorporated to enable privacy-preserving collaboration across distributed healthcare providers without centralized data sharing. The framework can be expanded to support real-time incrementality analytics by leveraging edge computing and streaming IoT health data. Advanced security mechanisms, such as confidential computing and blockchain-based audit trails, can further strengthen data integrity and regulatory compliance. Future research may also explore multimodal generative models that combine imaging, clinical text, and sensor data for holistic healthcare insights. Integration with SAP S/4HANA and SAP Business Technology Platform services can improve operational intelligence and enterprise interoperability. Additionally, the application of reinforcement learning to dynamically optimize experimental design and resource allocation presents a promising direction for next-generation intelligent healthcare analytics.

REFERENCES

1. Ahmed, M., Mahmood, A. N., & Hu, J. (2016). A survey of network anomaly detection techniques. Journal of Network and Computer Applications, 60, 19–31. https://doi.org/10.1016/j.jnca.2015.11.016
2. Davenport, T. H., & Harris, J. G. (2007). Competing on analytics: The new science of winning. Harvard Business School Press.
3. Dwork, C., McSherry, F., Nissim, K., & Smith, A. (2006). Calibrating noise to sensitivity in private data analysis. Journal of Privacy and Confidentiality, 7(3), 17–51.
4. Sugumar, R. (2024). AI-Driven Cloud Framework for Real-Time Financial Threat Detection in Digital Banking and SAP Environments. International Journal of Technology, Management and Humanities, 10(04), 165-175.
5. Gandomi, A., & Haider, M. (2015). Beyond the hype: Big data concepts, methods, and analytics. International Journal of Information Management, 35(2), 137–144. https://doi.org/10.1016/j.ijinfomgt.2014.10.007
6. Kumar, R. (2024). Real-Time GenAI Neural LDDR Optimization on Secure Apache–SAP HANA Cloud for Clinical and Risk Intelligence. International Journal of Engineering & Extended Technologies Research (IJEETR), 6(5), 8737-8743.
7. Ngai, E. W. T., Hu, Y., Wong, Y. H., Chen, Y., & Sun, X. (2011). The application of data mining techniques in financial fraud detection. Expert Systems with Applications, 38(10), 13163–13178. https://doi.org/10.1016/j.eswa.2011.04.012
8. Panda, M. R., Devi, C., & Dhanorkar, T. (2024). Generative AI-Driven Simulation for Post-Merger Banking Data Integration. Journal of Artificial Intelligence General science (JAIGS) ISSN: 3006-4023, 7(01), 339-350.
9. Natta, P. K. (2023). Robust supply chain systems in cloud-distributed environments: Design patterns and insights. International Journal of Research and Applied Innovations (IJRAI), 6(4), 9222–9231. https://doi.org/10.15662/IJRAI.2023.0604006
10. Sudhan, S. K. H. H., & Kumar, S. S. (2015). An innovative proposal for secure cloud authentication using encrypted biometric authentication scheme. Indian journal of science and technology, 8(35), 1-5.
11. Adari, V. K. (2020). Intelligent Care at Scale AI-Powered Operations Transforming Hospital Efficiency. International Journal of Engineering & Extended Technologies Research (IJEETR), 2(3), 1240-1249.
12. Gopinathan, V. R. (2024). AI-Driven Customer Support Automation: A Hybrid Human–Machine Collaboration Model for Real-Time Service Delivery. International Journal of Technology, Management and Humanities, 10(01), 67-83.
13. A. K. S, L. Anand and A. Kannur, "A Novel Approach to Feature Extraction in MI - Based BCI Systems," 2024 8th International Conference on Computational System and Information Technology for Sustainable Solutions (CSITSS), Bengaluru, India, 2024, pp. 1-6, doi: 10.1109/CSITSS64042.2024.10816913.
14. Madabathula, L. (2024). Reusable streaming pipeline frameworks for enterprise lakehouse analytics. International Journal of Engineering & Extended Technologies Research (IJEETR), 6(4), 8444–8451. https://doi.org/10.15662/IJEETR.2024.0604007
15. Singh, A. (2025). Intent-Based Networking in Multi-Cloud Environments. Journal of Engineering and Applied Sciences Technology, 7(2), 1-7.

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16. Karnam, A. (2021). The Architecture of Reliability: SAP Landscape Strategy, System Refreshes, and Cross-Platform Integrations. International Journal of Research and Applied Innovations, 4(5), 5833–5844. https://doi.org/10.15662/IJRAI.2021.0405005
17. Kasireddy, J. R. (2025, April). The Role of AI in Modern Data Engineering: Automating ETL and Beyond. In International Conference of Global Innovations and Solutions (pp. 667-693). Cham: Springer Nature Switzerland.
18. Ramakrishna, S. (2023). Cloud-Native AI Platform for Real-Time Resource Optimization in Governance-Driven Project and Network Operations. International Journal of Engineering & Extended Technologies Research (IJEETR), 5(2), 6282-6291.
19. Ganesh, N., Sriram, A., Krishnan, S. N., & Rao, T. S. (2025, June). Simultaneous Enhancement and Detection of Brain Tumors Using GAN. In Intelligent Computing-Proceedings of the Computing Conference (pp. 206-220). Cham: Springer Nature Switzerland.
20. Kusumba, S. (2024). Accelerating AI and Data Strategy Transformation: Integrating Systems, Simplifying Financial Operations Integrating Company Systems to Accelerate Data Flow and Facilitate Real-Time Decision-Making. The Eastasouth Journal of Information System and Computer Science, 2(02), 189-208.
21. Thambireddy, S. (2021). Enhancing Warehouse Productivity through SAP Integration with Multi-Model RF Guns. International Journal of Computer Technology and Electronics Communication, 4(6), 4297-4303.
22. Chivukula, V. (2023). Calibrating Marketing Mix Models (MMMs) with Incrementality Tests. International Journal of Research and Applied Innovations (IJRAI), 6(5), 9534–9538.
23. Sudhan, S. K. H. H., & Kumar, S. S. (2016). Gallant Use of Cloud by a Novel Framework of Encrypted Biometric Authentication and Multi Level Data Protection. Indian Journal of Science and Technology, 9, 44.
24. Navandar, P. (2022). SMART: Security Model Adversarial Risk-based Tool. International Journal of Research and Applied Innovations, 5(2), 6741-6752.
25. Shafiq, M., He, Y., & Khreishah, A. (2018). Big data analytics for network intrusion detection: Approaches, taxonomy, and research challenges. IEEE Communications Surveys & Tutorials, 20(3), 2157–2185. https://doi.org/10.1109/COMST.2018.2828268
26. Nagarajan, G. (2023). AI-Integrated Cloud Security and Privacy Framework for Protecting Healthcare Network Information and Cross-Team Collaborative Processes. International Journal of Engineering & Extended Technologies Research (IJEETR), 5(2), 6292-6297.
27. Jayaraman, S., Rajendran, S., & P, S. P. (2019). Fuzzy c-means clustering and elliptic curve cryptography using privacy preserving in cloud. International Journal of Business Intelligence and Data Mining, 15(3), 273-287.
28. Vimal Raja, G. (2022). Leveraging Machine Learning for Real-Time Short-Term Snowfall Forecasting Using MultiSource Atmospheric and Terrain Data Integration. International Journal of Multidisciplinary Research in Science, Engineering and Technology, 5(8), 1336-1339.
29. Kumar, S. S. (2023). AI-Based Data Analytics for Financial Risk Governance and Integrity-Assured Cybersecurity in Cloud-Based Healthcare. International Journal of Humanities and Information Technology, 5(04), 96-102.
30. Sommer, R., & Paxson, V. (2010). Outside the closed world: On using machine learning for network intrusion detection. Proceedings of the IEEE Symposium on Security and Privacy, 305–316. https://doi.org/10.1109/SP.2010.25
31. Poornima, G., & Anand, L. (2024, April). Effective Machine Learning Methods for the Detection of Pulmonary Carcinoma. In 2024 Ninth International Conference on Science Technology Engineering and Mathematics (ICONSTEM) (pp. 1-7). IEEE.
32.
33. Chaudhari, B. B., Kabade, S., & Sharma, A. (2025, May). Leveraging AI to Strengthen Cloud Security for Financial Institutions with Blockchain-Based Secure E-Banking Payment System. In 2025 International Conference on Networks and Cryptology (NETCRYPT) (pp. 1490-1496). IEEE.