International Journal of Scientific Research in Science and Technology
Print ISSN: 2395-6011 | Online ISSN: 2395-602X (www.ijsrst.com)
doi : https://doi.org/10.32628/IJSRST2152548

SQL BI Optimization Strategies in Finance and Banking

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Article Info
Volume 8, Issue 5
Page Number : 672-687
Publication Issue
September-October-2021
Article History
Accepted : 11 Sep 2021
Published : 20 Sep 2021

ABSTRACT

To this end, this paper examines the best practice in making the finance and banking industry SQL BI more efficient and effective in terms of query execution and real-time analysis. Techniques such as Indexing, partitioning, query rewriting, parallel processing, in memory tables are explained practical to large financial data sets. These strategies were identified to enhance techniques such as transaction monitoring, customer analysis, financial reporting, and risk management since their execution duration is time-consuming. The paper will also focus on the role of the optimized SQL queries in the decision-making process and the issues, seen when seeking constant performance in financially volatile demonstrative systems.

Keywords : SQL, BI optimization, banking and financial, transaction monitoring

I. INTRODUCTION

Optimization of SQL is significant to BI applications in finance and banking industries since efficiency in handling big data is significant. Since financial institutions need real time data for decision making, query performance forms operationality. Optimal forms of SQL can decrease latency considerably, enhance the understanding of customers, and address compliance issues. The current paper explores several SQL optimisation techniques including indexing, partitioning, parallel processing, and usage of in-memory tables within the BI systems adopted by finance and banking industries. The purpose is to showcase how such methods are used to improve upon data manipulation and system effectiveness.

II. LITERATURE REVIEW

The incorporation of SQL based Business Intelligence (BI) systems has become prevalent in the finance and banking industries to improve management of data that should facilitate evidence-based decision making. As the main language for managing relational database management systems, SQL is used intensively in BI processes to store, retrieve, and analyse significant amounts of financial information. Especially in the field of finance and banking having efficient ways to process SQL queries is important because of the high rate of data change, high number of regulations, and the critical role of real-time data processing in the respective industries.

This is especially crucial in scenarios whereby multiple queries are executed especially in BI platforms where huge amounts of Data need to be processed and delivered in an instant in their most optimized forms for business decision-making. Due to the importance of performance optimization in SQL, financial organizations are paying more attention to optimizing query processing to enhance the throughput of their BI systems to a higher level of performance, as far as cost factors allow.

In the employment of SQL for the financial BI systems, it is noted that there are significant and core functions that would require complex capability of voluminous transactional and historic data to include customer analysis, fraud detection, credit scoring and risk management (Fejzaj, 2021). Complexity of the queries in such contexts in addition to the requirement for dealing with real-time as well as near real-time data updates means considerable challenges with regards to SQL optimization. To overcome these obstacles, all the financial institutions have employed numerous methods of SQL optimization to decrease the risk of query lag.

SQL query optimization is a major area, one of the most important strategies that one could adopt is that of indexing; which provides a great boost especially in situations where the application focuses on data retrieval operations. These solved problems of performance indicate that by establishing indexes on the required but frequently queried columns, financial institutions can minimize the time spent searching for the large files in question. However, with indexes, there are several disadvantages as follows, the consumption of storage space and extra computation when updating indexes among others (Brozović, 2020). Hence, institutions need to decide which of columns it can index, taking into consideration the costs of getting more efficient access and querying, and the costs of increased storage and maintenance.

Apart from indexing, query rewriting and optimization of execution plans is the other key component of the toolkit of SQL optimization. In query rewriting, queries are transformed for its such that it gives better performance compared to the initial one. It may involve simplistic transformations on subqueries, use of GUIs for removing complex joins, or restructuring of queries to optimality for enhanced retrieval by the DBMS. In the same way, improving the execute plan entails making sure that the DBMS selects the best approach to use when executing a retrieved query. Other features of DBMS include query plan caching, adaptive query optimization that financial institutions can also consider for improvements.

Another important improvement strategy, commonly applied in the finance industry, is partitioning, which implies the division of huge tables into physically distinct parts by an explicit parameter. That means queries will run faster because the system will not have to search as large a data set as it would if all tables were linked. For instance, in banking environment, by partitioning of tables based on the transaction dates or based on the customers' geographical regions enhances the efficiency of the queries that involve time and location respectively (Osuagwu, 2020). The partitioning however must be done well to support the query designs and keep the database manageable and balanced over time.

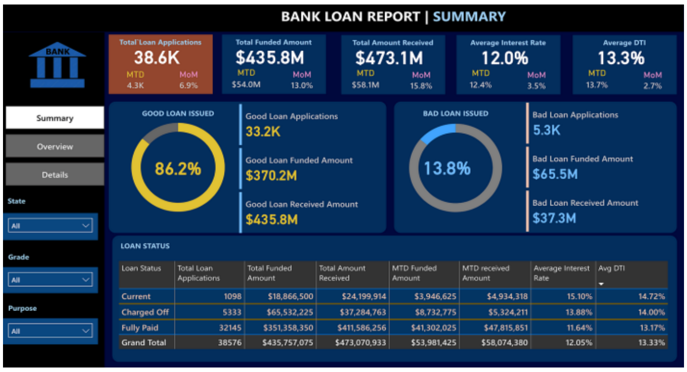

Figure 1. Bank Loan Analysis Using SQL and Power BI (Medium, 2021)

Another important strategy of optimization is parallel processing, which has recently been actively used in BI systems built on SQL basis. Execution of sub-queries as independent tasks and their concurrent processing on different CPU cores or servers yields improvements in the extent of several folds. Parallel query execution is useful more in cases where the size of the data to be searched is huge like in fraud detection case or in a simple market analysis where the speeds of processing can be extremely slow.

It has become a norm for distributed databases to be implemented through cloud-based architectures, so that horizontal scaling of SQL queries occurs across different machines in financial institutions. This distributed approach implemented for SQL optimization empowers enlarged financial institutions to grow their BI system to accommodate higher volumes of data without diminishing performance. Both AWS and Microsoft Azure provide managed SQL services to the banks and financial institutions which already possess inbuilt parallelism tools so, the adoption of distributed manner and parallelism becomes easier.

Nevertheless, there are some intrinsic difficulties that are associated with the application of these optimization methods concerning the finance and banking fields. Among the issues here is to identify how the actualization of the optimization strategies can be done without compromising on data accuracy as well as data security, the latter being an especially important consideration in a financial setting. For example, although indexing or partitioning has benefits of enhancing query performance, issues related to data consistency like real-time data updates are problematic. It is therefore important for a financial institution to fashion out its optimization strategies in such a way that data is preserved at the same time as performance goals are met.

It is common to achieve the improvement of SQL queries in a financial BI system by solving problems that relate the speeds and effectiveness to the data models. Different data types are often used in financial institutions and as new and more complicated forms of data from various sources are gathered, optimizing the SQL queries given the nature of data gathered which include structured, semi structured, and unstructured data becomes a problem (Muñoz-Sánchez et al., 2021). In these contexts, it might be insufficient to only focus on classical SQL tune-up, and institutions might have to investigate SQL in combination with other data processing technologies such as NoSQL databases, or in-memory computing platforms.

The fourth and final problem of query optimization for financial BI is the constantly changing nature of the financial industry. Business conditions or actual financial instruments may develop new characteristics or bring new regulation that requires additional data changes or updates. Consequently, these optimization strategies effective in one setting can be ineffective because the environment providing data or the characteristics of business change.

This feature of the industry makes it necessary for financial institutions to employ optimisation methods that are by their nature malleable, and that can easily be adapted whenever there are changes in the data or business processes. The rate of innovation also becomes a factor that is considered in the optimization process since the financial institutions have to consider new innovations such as database technologies, cloud computing and machine learning as potential solutions for optimization of SQL queries being used.

The keys to truly optimizing a database tend to be many of the same techniques as those that result in higher levels of web application scalability, but as with all forms of optimization there are trade-offs to be considered. The actual tuning of SQL queries demands considerable time and effort, more so in large financial industries where databases are robust, and queries could be spread across multiple systems and applications. Second, the return from optimization should be having in mind the cost of implementing the optimization process is time-consuming, requires specialized skills, investments, and support structures, and must be maintained continually.

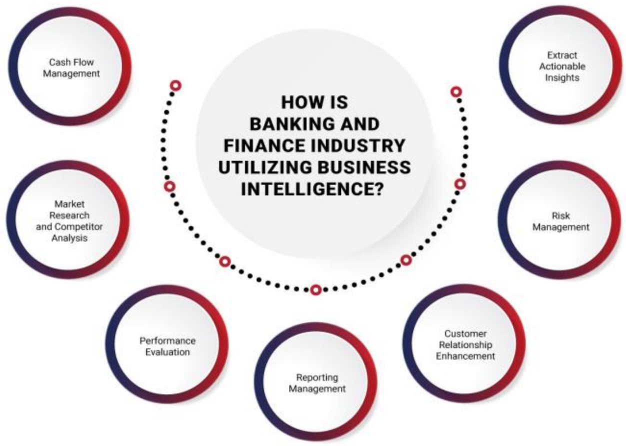

Figure 2 Business Intelligence in Banking (Rishabh Software, 2021)

Financial institutions must therefore take a closer look at SQL and ensure that it is reviewed on both the technical and business end, since the optimization efforts are likely to be of great value in the financial institutions (Ceaparu, 2021). All in all, SQL optimization is an important element of BI systems development in the finance and banking sectors but its successful application may involve significant amounts of planning, monitoring and consideration of the technical and organizational aspects of the institution.

SQL BI Optimization Strategies in Finance and Banking

BI systems based on SQL are critical in the finance and banking industries to facilitate handling of transactional and historical information to arrive at business decisions (da Costa, 2021). These systems are based on SQL for data query and analysis, allowing an organization to make decision for various use such as risk analysis, fraud control, customer profiling and financial prediction.

In large and rapidly growing financial institutions, SQL query optimization becomes even more important due to large and growing sizes of data input, processing, and outputs. Optimisation management measures are required to control queries' performance and guarantee that they provide timely results; this is particularly important in high-speed conditions of the financial companies. Query optimization is significant more in BI because this is the way queries are designed that enables institutions to respond to competitions and make business decisions that conform to regulations within the shortest time possible.

Indexing is one of the most traditional ways of managing SQL in financial BI systems, ultimately causing it to become very popular. Indexing creates the data structures that help the database engine to reduce data search and hence improve on the time taken to get the rows (Kumar et al., 2020). Relatively in a banking environment where queries involve extensive database operations especially, operations relating to customers' transactions and their various financial statements, indexing is usually very effective in improving the response time of SELECT statements.

```
-- Step 1: Create Indexes for Faster Data Retrieval
-- Creating an index on the "CustomerID" and "TransactionDate" columns to speed up queries that filter by customer and date
CREATE INDEX idx_customer_transaction
ON Transactions (CustomerID, TransactionDate);

-- Step 2: Partitioning the Transactions Table by Year for Improved Query Performance
-- Partitioning the Transactions table into smaller partitions based on the year of the transaction date
CREATE TABLE Transactions (
    TransactionID INT PRIMARY KEY,
    CustomerID INT,
    Amount DECIMAL(10, 2),
    TransactionDate DATE
)
PARTITION BY RANGE (YEAR(TransactionDate)) (
    PARTITION p2020 VALUES LESS THAN (2021),
    PARTITION p2021 VALUES LESS THAN (2022),
    PARTITION p2022 VALUES LESS THAN (2023)
);

-- Step 3: Inserting Sample Data into Partitioned Table (for demonstration purposes)
INSERT INTO Transactions (TransactionID, CustomerID, Amount, TransactionDate)
VALUES
(1, 101, 200.00, '2020-03-15'),
(2, 102, 150.00, '2021-07-22'),
(3, 103, 350.00, '2021-11-10'),
(4, 101, 400.00, '2022-01-05'),
(5, 102, 250.00, '2022-04-15');

-- Step 4: Rewriting Query to Use Joins Instead of Subqueries
-- A more efficient query that avoids subqueries and uses JOINs for faster performance
SELECT c.CustomerID,
       SUM(t.Amount) AS TotalSpent
FROM Customers c
JOIN Transactions t ON c.CustomerID = t.CustomerID
WHERE t.TransactionDate BETWEEN '2021-01-01' AND '2022-12-31'
GROUP BY c.CustomerID;

-- Step 5: Optimize Query with Parallel Execution (SQL Server example)
-- Using MAXDOP to parallelize query execution and speed up the process (uses multiple cores)
SELECT c.CustomerID,
       COUNT(t.TransactionID) AS TransactionCount,
       SUM(t.Amount) AS TotalSpent
FROM Customers c
JOIN Transactions t ON c.CustomerID = t.CustomerID
WHERE t.TransactionDate BETWEEN '2021-01-01' AND '2022-12-31'
GROUP BY c.CustomerID
OPTION (MAXDOP 4);  -- Uses up to 4 CPU cores for parallel execution
```

```sql
-- Step 6: Using In-Memory Tables for Fast Access
-- Creating a temporary in-memory table for frequent queries
CREATE TABLE #InMemoryTransactions
WITH (MEMORY_OPTIMIZED = ON)
(
    TransactionID INT PRIMARY KEY NONCLUSTERED,
    CustomerID INT,
    Amount DECIMAL(10, 2),
    TransactionDate DATE
);

-- Step 7: Inserting Data into In-Memory Table
-- Populating the in-memory table with data for faster querying
INSERT INTO #InMemoryTransactions
SELECT TransactionID, CustomerID, Amount, TransactionDate
FROM Transactions
WHERE YEAR(TransactionDate) = 2021;

-- Step 8: Optimized Query Using Aggregate Functions
-- Efficiently calculating total amount spent per customer within a date range
SELECT CustomerID,
       SUM(Amount) AS TotalSpent,
       COUNT(TransactionID) AS TransactionCount
FROM Transactions
WHERE TransactionDate BETWEEN '2021-01-01' AND '2022-12-31'
GROUP BY CustomerID;

-- Step 9: Monitoring and Analyzing Query Performance with Execution Plan
-- Enable statistics to analyze query performance
SET STATISTICS IO ON;
SET STATISTICS TIME ON;

SELECT c.CustomerID,
       SUM(t.Amount) AS TotalSpent
FROM Customers c
JOIN Transactions t ON c.CustomerID = t.CustomerID
WHERE t.TransactionDate BETWEEN '2021-01-01' AND '2022-12-31'
GROUP BY c.CustomerID;

SET STATISTICS IO OFF;
SET STATISTICS TIME OFF;

-- Step 10: Clean Up Temporary Tables (If Any)
-- Dropping the in-memory table to clean up
DROP TABLE #InMemoryTransactions;
```

However, as with most things regarding database programming, indexes offer benefits but at the same time also come with certain problems. For instance, indexes may take up more space; they can also be a limiting factor in data manipulation operations such as, INSERT, UPDATE and DELETE. Hence, it is crucial for the financial organizations to decide carefully about the choice of index's columns to gain more profit from commonly performed queries, not to include excess indexes which would have a negative impact on performance (Skyrius et al., 2018). Another technique for coping with large numbers of records is called partitioning in which large tables are subdivided into smaller, independent, and accessible table segments based on some criteria as the date of the transaction, the region, and so on. Subdivision leads to fewer data to be processed during query execution hence optimizing on query execution and system utilization. It is particularly beneficial in the finance industry, whereby the amount of data increases rapidly year after year, and often, the searches must be made using features such as time-stamped data.

Other possible way of improving the SQL performance used in the financial BI systems is parallel processing. A large query can be decomposed into several tasks that are run in parallel on separate processors enabling financial institutions to cut on data processing time. In large data environments, such as the current fraud detection systems, parallel query execution results in much quicker response time (Amini et al., 2021). Likewise, the financial institutions use distributed databases or cloud-based facilities for BI to grow up their operations.

It also implies that queries can be divided into any number of machines, meaning that scalability of the SQL based system increases horizontally based on the amount of the data. This scalability is important for financial organizations that need to work with real-time transactional data and still be very efficient. A Distributed SQL engine like the ones available in cloud providers, Amazon Redshift, or Google BigQuery provides an opportunity for a financial institution to leverage the computation and scalability that is possible from cloud resources. Although these optimization strategies may have their merit these also have their drawbacks.

One thing that is crucial in this case is to ensure that the functionality of queries is still achievable while at the same time ensuring that security and data integrity of the finance data has not been compromised especially because finance data is normally very sensitive and should also be perfectly formed to meet the required regulatory standards most especially in the developed world. Also, the nature of finance and banking businesses has a strong need for the constant changing of optimization methods to match business needs, data, and technological changes (Doko et al., 2021). The methods used in financial markets must thus be adaptable to the dynamics of the markets in a way that will still allow for maximum utility in the new markets as they develop new rules. Hence, the use of the data must be approached as an ongoing process with an emphasis placed on constantly tweaking financial institutions' SQL optimization strategies because of the constantly changing nature of demand for efficiency within BI systems.

III. Applications

1. **Transaction Monitoring**: Efficient SQL queries can take fairly a long time in monitoring transactions for the purpose of identifying fraud thus the need to be prompt in responding to such activities.
2. **Customer Behavior Analysis**: Through indexing and partitioning, the large and complex volumes of customer transactions can be processed to provide better market insights, including customized solutions for monetary institutions.
3. **Financial Reporting**: Fine-tuning of SQL queries contributes to the quicker preparation of financial statements for the provision of relevant business intelligence and consent with the standard field necessitates.
4. **Risk Management**: With the help of SQL optimization, it is possible to increase the speed of calculations for large numbers of complex risk models and, thereby, enhance the capability of banks to evaluate and manage possible risks.
5. **Portfolio Management**: Optimized BI queries can be used by financial analysts to control and facilitate the control of the client portfolio, while avoiding long data processing and reporting times.

IV. Discussion

SQL optimisation techniques applied to BI within finance and banking improves functioning and profitability greatly. The efficiency of common methods like indexing, partitioning, and parallel processing can improve the speed and accuracy of data analysis in large and rapidly growing volumes of big data used by financial institutions. It is critical in conditions where real-time data processing is compulsory, including, fraud detection, customer behaviour analysis, and reports for regulation compliance.

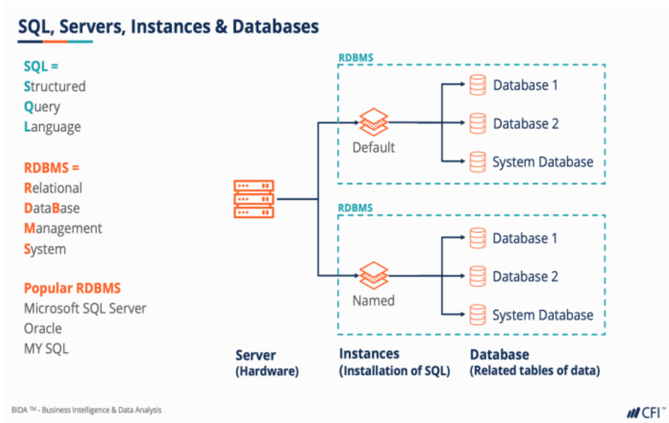

Figure 3. SQL Fundamentals (CFL, 2021)

Other benefits of optimization include enhanced capability of the queries being executed within the system. Indexing helps faster identification of data, and partitioning ensures that queries with large tables run faster by partitioning the large table. Parallel processing means that many CPUs are used so that several queries may execute at once and works faster. These enhancements make it possible for banks to offer intelligence in line with expectations and adapt to the evolution in markets instantly.

Nevertheless, such choices imply costs in terms of the overhead required to sustain such optimizations. Additional space is necessary for indexes as well as indexes can decrease write performance. Likewise, it is noteworthy that partitioning of large tables may also bring about additional issues related to data control and update (Massardi et al., 2018). However, not all queries can be processed effectively in parallel; the abuse of parallel executing often results in competing for resources. As the demonstrated finance and banking case shows, SQL optimization strategies offer a great deal of opportunities, yet its practical enactment needs solid preparation and subsequent performance analysis to avoid the impact of generalized approaches on particular commercial requirements.

V. Conclusion

Optimization techniques play a special role in the improvement of performance of Business Intelligence systems for the financial and banking sector. Some methods such as indexing, partitioning and parallel processing can be used by institutions to enhance the rate that data is analysed to a stage where it enhances a quicker decision-making ability, and better customer service is offered. The application of these strategies must be controlled effectively in order to optimize the gains achieved against the costs generated by additional space demands and system enhancement. When optimized constantly and tested for its performance, the data allows the financial institutions to deliver the best service as the landscape of the market changes continuously.

VI. REFERENCES

[1]. Amini, M., Salimi, S., Yousefinejad, F., Tarokh, M. J., & Haybatollahi, S. M. (2021). The implication of business intelligence in risk management: a case study in agricultural insurance. Journal of data, information and management, 3, 155-166. https://doi.org/10.1007/s42488-021-00050-6

[2]. Brozović, V. (2020). Utilization of business intelligence tools and advanced analytics in systemic risk supervision (Doctoral dissertation, University of Zagreb. Faculty of Economics and Business). https://repozitorij.unizg.hr/islandora/object/efzg:5862

[3]. Ceaparu, C. (2021). IT solutions for big data processing and analysis in the finance and banking sectors. In Intelligent Methods in Computing, Communications and Control: Proceedings of the 8th International Conference on Computers Communications and Control (ICCCC) 2020 8 (pp. 133-144). Springer International Publishing. https://doi.org/10.1007/978-3-030-53651-0_11

[4]. da Costa, M. M. M. (2021). How to hire in finance and banking: The case of a human resources consulting firm (Master's thesis, Universidade Catolica Portuguesa (Portugal)). https://www.proquest.com/openview/6c326cd8be7b199f4759420b793ed977/1?pq-origsite=gscholar&cbl=2026366&diss=y

[5]. Doko, F., Kalajdziski, S., & Mishkovski, I. (2021). Credit risk model based on central bank credit registry data. Journal of Risk and Financial Management, 14(3), 138. https://doi.org/10.3390/jrfm14030138

[6]. Fejzaj, J. (2021). Portfolio optimization modeling through real time reports and analytics. International Journal of Computer Science and Information Security (IJCSIS), 19(4). https://d1wqtxts1xzle7.cloudfront.net/67611195/05_Paper_01042106_IJCSIS_Camera_Ready_pp36_42-libre.pdf?1623570917=&response-content-disposition=inline%3B+filename%3DPortfolio_optimization_modeling_through.pdf&Expires=1731225659&Signature=ZLpTJredYkrkrqTJ-Q3iYAoPcs3rfudHP0Oyj2PJox~dUBX5tVaL83w-8W~eujBMjpiJDszqUxQ-IjC28QLAwfyYEAX0a4ikSOtQnnrXdQSd9ZvTPTf5DsC3SSzCFYMWKbZ7XXBhOtUREi4gLyFeAzGI8zZ~Jpp4RvMXVsmmUG0jBEDbgzQlArsu9PZuygdquOZ6-6dKVqvsXbYdC6XL3cbXdl4f565YqSAOAyrnRcIZ4ovS4zQVW~pgdtMit2quzSo72WQveLBBhUnjmMciYX2b9Jl-MODNCs~~4prNMrKxb1IORAm8HrIrKzP25SPlEiJ1Pi-HLltARob-lu7TFw__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

[7]. Kumar, S., & Aithal, P. S. (2020). Banking and Financial Analytics–An Emerging Big Opportunity Based on Online Big Data. International Journal of Case Studies in

Business, IT and Education (IJCSBE), 4(2), 293-309. https://doi.org/10.47992/IJCSBE.2581.6942.0097

[8]. Massardi, A. E., & Utama, D. N. (2018, September). Business intelligence design of rural bank performance assessment using financial ratio analysis. In 2018 International Conference on Information Management and Technology (ICIMTech) (pp. 143-148). IEEE. https://doi.org/10.1109/ICIMTech.2018.8528107

[9]. Muñoz-Sánchez, T., & Espinoza-Mejía, M. (2021, October). Proposal of a Real Time Microservice Architecture Applied to Business Intelligence for the Financial Sector. In International Conference on Applied Technologies (pp. 456-468). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-03884-6_33

[10]. Osuagwu, J. (2020). Exploring Best Practices to Address Readiness Challenges Triggered by Implementation of Business Intelligence Solutions in Banking Industry. Colorado Technical University. https://www.proquest.com/openview/2a403ce694983bd774b5f9e04f5e9dd3/1?pq-origsite=gscholar&cbl=18750&diss=y

[11]. Skyrius, R., Giriūnienė, G., Katin, I., Kazimianec, M., & Žilinskas, R. (2018). The potential of big data in banking. Guide to Big Data Applications, 451-486. https://doi.org/10.1007/978-3-319-53817-4_17

[12]. Cherukuri, H., Singh, S. P., & Vashishtha, S. (2020). Proactive issue resolution with advanced analytics in financial services. The International Journal of Engineering Research, 7(8), a1-a13.https://tijer.org/tijer/viewpaperforall.php?paper=TIJER2008001

[13]. Cherukuri, H., Goel, E. L., & Kushwaha, G. S. (2021). Monetizing financial data analytics: Best practice. International Journal of Computer Science and Publication (IJCSPub), 11(1), 76-87.

[14]. Mehra, A. (2021). The impact of public-private partnerships on global educational platforms. Journal of Informatics Education and Research, 1(3), 9-28. Retrieved from http://jier.org

[15]. Ankur Mehra. (2019). Driving Growth in the Creator Economy through Strategic Content Partnerships. International Journal for Research Publication and Seminar, 10(2), 118–135. https://doi.org/10.36676/jrps.v10.i2.1519

[16]. Swethasri Kavuri, Suman Narne, " Implementing Effective SLO Monitoring in High-Volume Data Processing Systems, IInternational Journal of Scientific Research in Computer Science, Engineering and Information Technology(IJSRCSEIT), ISSN : 2456-3307, Volume 6, Issue 2, pp.558-578, March-April-2020. Available at doi : https://doi.org/10.32628/CSEIT206479

[17]. Swethasri Kavuri, Suman Narne, " Improving Performance of Data Extracts Using Window-Based Refresh Strategies, International Journal of Scientific Research in Science, Engineering and Technology(IJSRSET), Print ISSN : 2395-1990, Online ISSN : 2394-4099, Volume 8, Issue 5, pp.359-377, September-October-2021. Available at doi : https://doi.org/10.32628/IJSRSET2310631

[18]. Swethasri Kavuri, " Automation in Distributed Shared Memory Testing for Multi-Processor Systems, International Journal of Scientific Research in Science, Engineering and Technology(IJSRSET), Print ISSN : 2395-1990, Online ISSN : 2394-4099, Volume 6, Issue 3, pp.508-521, May-June-2019. Available at doi : https://doi.org/10.32628/IJSRSET12411594

[19]. Shivarudra, A. (2021). Enhancing automation testing strategies for core banking applications. International Journal of All Research Education and Scientific Methods (IJARESM), 9(12), 1. Available online at http://www.ijaresm.com

[20]. Shivarudra, A. (2019). Leveraging TOSCA and Selenium for efficient test automation in financial services. International Journal of All Research Education and Scientific Methods (IJARESM), 7(10), 56–64.

[21]. Shivarudra, A. (2021). The Role of Automation in Reducing Testing Time for Banking Systems. Integrated Journal for Research in Arts and Humanities, 1(1), 83–89. https://doi.org/10.55544/ijrah.1.1.12

[22]. Bhatt, S. (2021). Optimizing SAP Migration Strategies to AWS: Best Practices and Lessons Learned. Integrated Journal for Research in Arts and Humanities, 1(1), 74–82. https://doi.org/10.55544/ijrah.1.1.11

[23]. Sachin Bhatt , " Innovations in SAP Landscape Optimization Using Cloud-Based Architectures, IInternational Journal of Scientific Research in Computer Science, Engineering and Information Technology(IJSRCSEIT), ISSN : 2456-3307, Volume 6, Issue 2, pp.579-590, March-April-2020.

[24]. Bhatt, S. (2021). A comprehensive guide to SAP data center migrations: Techniques and case studies. International Journal of Scientific Research in Science, Engineering and Technology, 8(5), 346–358. https://doi.org/10.32628/IJSRSET2310630

[25]. Balachandar Paulraj. (2021). Implementing Feature and Metric Stores for Machine Learning Models in the Gaming Industry. European Economic Letters (EEL), 11(1). Retrieved from https://www.eelet.org.uk/index.php/journal/article/view/1924

[26]. Alok Gupta. (2021). Reducing Bias in Predictive Models Serving Analytics Users: Novel Approaches and their Implications. International Journal on Recent and Innovation Trends in Computing and Communication, 9(11), 23–30. Retrieved from https://ijritcc.org/index.php/ijritcc/article/view/11108

[27]. Vaidya, H., Nayani, A. R., Gupta, A., Selvaraj, P., & Singh, R. K. (2020). Effectiveness and future trends of cloud computing platforms. Tuijin Jishu/Journal of Propulsion Technology, 41(3). https://doi.org/10.52783/tjjpt.v45.i03.7820

[28]. Aravind Reddy Nayani, Alok Gupta, Prassanna Selvaraj, Ravi Kumar Singh, & Harsh Vaidya. (2019). Search and Recommendation Procedure with the Help of Artificial Intelligence. International Journal for Research Publication and Seminar, 10(4), 148–166. https://doi.org/10.36676/jrps.v10.i4.1503

[29]. Sagar Shukla. (2021). Integrating Data Analytics Platforms with Machine Learning Workflows: Enhancing Predictive Capability and Revenue Growth. International Journal on Recent and Innovation Trends in Computing and Communication, 9(12), 63–74. Retrieved from https://ijritcc.org/index.php/ijritcc/article/view/11119

[30]. Sneha Aravind. (2021). Integrating REST APIs in Single Page Applications using Angular and TypeScript. International Journal of Intelligent Systems and Applications in Engineering, 9(2), 81 –. Retrieved from https://ijisae.org/index.php/IJISAE/article/view/6829

[31]. Sachin Bhatt , " A Comprehensive Guide to SAP Data Center Migrations: Techniques and Case Studies, International Journal of Scientific Research in Science, Engineering and Technology(IJSRSET), Print ISSN : 2395-1990, Online ISSN : 2394-4099, Volume 8, Issue 5, pp.346-358, September-October-2021. Available at doi : https://doi.org/10.32628/IJSRSET2310630

[32]. Bhatt, S. (2021). A comprehensive guide to SAP data center migrations: Techniques and case studies. International Journal of Scientific

Research in Science, Engineering and Technology (IJSRSET), 8(5), 346–358. https://doi.org/10.32628/IJSRSET2310630

[33]. Rinkesh Gajera , "Leveraging Procore for Improved Collaboration and Communication in Multi-Stakeholder Construction Projects", International Journal of Scientific Research in Civil Engineering (IJSRCE), ISSN : 2456-6667, Volume 3, Issue 3, pp.47-51, May-June.2019

[34]. Saoji, R., Nuguri, S., Shiva, K., Etikani, P., & Bhaskar, V. V. S. R. (2019). Secure federated learning framework for distributed AI model training in cloud environments. International Journal of Open Publication and Exploration (IJOPE), 7(1), 31. Available online at https://ijope.com.

[35]. Savita Nuguri, Rahul Saoji, Krishnateja Shiva, Pradeep Etikani, & Vijaya Venkata Sri Rama Bhaskar. (2021). OPTIMIZING AI MODEL DEPLOYMENT IN CLOUD ENVIRONMENTS: CHALLENGES AND SOLUTIONS. International Journal for Research Publication and Seminar, 12(2), 159–168. https://doi.org/10.36676/jrps.v12.i2.1461

[36]. Saoji, R., Nuguri, S., Shiva, K., Etikani, P., & Bhaskar, V. V. S. R. (2021). Adaptive AI-based deep learning models for dynamic control in software-defined networks. International Journal of Electrical and Electronics Engineering (IJEEE), 10(1), 89–100. ISSN (P): 2278–9944; ISSN (E): 2278–9952

[37]. Chinta, U., Aggarwal, A., & Jain, S. (2020). Risk management strategies in Salesforce project delivery: A case study approach. Innovative Research Thoughts, 7(3).

[38]. Bhimanapati, V. B. R., Renuka, A., & Goel, P. (2021). Effective use of AI-driven third-party frameworks in mobile apps. Innovative Research Thoughts, 7 (2)l Li.

[39]. Bhimanapati, V. B. R., Renuka, A., & Goel, P. (2021). Effective use of AI-driven third-party frameworks in mobile apps. Innovative Research Thoughts, 7 (2).

[40]. Nadukuru, S., Antara, F., Chopra, P., Renuka, A., & Goel, O. (2021). Agile methodologies in global SAP implementations: A case study approach. International Research Journal of Modernization in Engineering Technology and Science, 3(11), 1592-1605. https://doi.org/10.56726/IRJMETS17272

[41]. Mangal, A. (2021). Evaluating planning strategies for prioritizing the most viable projects to maximize investment returns. ESP Journal of Engineering & Technology Advancements, 1(2), 69-77. https://doi.org/10.56472/25832646/JETA-V1I2P110

[42]. Mangal, A. K. (2013). Multithreaded Java applications performance improvement. International Journal of Advanced Research in Computer Science and Software Engineering (IJARCSSE), 3(3), 47-50.

[43]. Mangal, A., Jain, V., Jat, R. C., Bharadwaj, S., & Jain, S. (2010). Neuro pharmacological study of leaves of Camellia sinensis. International Journal of Pharmacy and Pharmaceutical Sciences, 2(3), 132-134.

[44]. Mangal, A., Gaur, U., Jain, A., Goyal, U., Tripathi, R., & Rath, R. (2007). Alkaline phosphatase and placental alkaline phosphatase activity in serum of normal and pregnancy-induced hypertensive mothers. Journal of the International Medical Sciences Academy, 20, 117-120.

[45]. Mangal, A., Shrivastava, P., Gaur, U., Jain, A., Goyal, U., & Rath, G. (2005). Histochemical analysis of placental alkaline phosphatase in hypertensive disorders complicating pregnancy. Journal of the Anatomical Society of India, 54(2), 2005-12.

[46]. Mahimkar, S., & Lagan Goel, D. G. S. K. (2021). Predictive Analysis of TV Program Viewership

UsinMaCreative Research Thoughts (IJCRT), ISSN, 2320–2882.

[47]. g Random Forest Algorithms. IJRAR-International Journal of Research and Analytical Reviews (IJRAR), 309–322.

[48]. Arulkumaran, R., Mahimkar, S., Shekhar, S., Jain, A., & Jain, A. (2021). Analyzing Information Asymmetry in Financial Markets Using Machine Learning. International Journal of Progressive Research in Engineering Management and Science, 1(2), 53–67. https://doi.org/10.58257/IJPREMS16.f

[49]. Shekhar, S., SHALU, J., & Tyagi, D. P. (2020). Advanced Strategies for Cloud Security and Compliance: A Comparative Study. IJRAR-International Journal of Research and Analytical Reviews (IJRAR), E-ISSN 2348–1269, P-ISSN 2349–5138, 396–407.

[50]. Chintha, V. R., & Priyanshi, P. Sangeet Vashishtha. (2020). 5G Networks: Optimization of Massive MIMO. IJRAR-International Journal of Research and Analytical Reviews (IJRAR), 7(1), 389-406.

[51]. Vishesh Narendra Pamadi, Dr. Priya Pandey, Om Goel. (2021). Comparative Analysis of Optimization Techniques for Consistent Reads in Key-Value Stores. International Journal of Creative Research Thoughts (IJCRT), 9(10), d797-d813. http://www.ijcrt.org/papers/IJCRT2110459.pdf

[52]. Pamadi, V. N., Chaurasia, D. A. K., & Singh, D. T. (2020). Comparative Analysis OF GRPC VS. ZeroMQ for Fast Communication. International Journal of Emerging Technologies and Innovative Research (www.jetir.org), 7(2), 937-951.

[53]. Pamadi, V. N., Chaurasia, D. A. K., & Singh, D. T. (2020). Effective Strategies for Building Parallel and Distributed Systems. International Journal of Novel Research and Development (www.ijnrd.org), 5(1), 23-42.

[54]. Nadukuru, S., Antara, F., Chopra, P., Renuka, A., & Goel, O. (2021). Agile methodologies in global SAP implementations: A case study approach. International Research Journal of Modernization in Engineering Technology and Science, 3(11), 1592–1605. https://doi.org/10.56726/IRJMETS1727

[55]. Avancha, S., Khan, S., & Goel, O. (2021). AI-driven service delivery optimization in IT: Techniques and strategies. International Journal of Creative Research Thoughts (IJCRT), 9(3), 6496–6510. Retrieved from http://www.ijcrt.org/

[56]. Avancha, S., Chhapola, A., & Jain, S. (2021). Client relationship management in IT services using CRM systems. Innovative Research Thoughts, 7(1).

[57]. Khair, M. A., Avancha, S., Gajbhiye, B., Goel, P., & Jain, A. (2021). The role of Oracle HCM in transforming HR operations. Innovative Research Thoughts, 9(5), 300. doi: 10.36676/irt.v9.i5.1489

[58]. Mahadik, S., Kolli, R. K., Eeti, S., Goel, P., & Jain, A. (2021). Scaling startups through effective product management. International Journal of Progressive Research in Engineering Management and Science, 1(2), 68–81.

[59]. Eeti, S., & Goel, P., & Renuka, A. (2021). Strategies for migrating data from legacy systems to the cloud: Challenges and solutions. TIJER (The International Journal of Engineering Research, 8(10), a1–a11.

[60]. Khatri, D. K., Chhapola, A., & Jain, S. (2021) AI-enabled applications in SAP FICO for enhanced reporting. International Journal of Creative Research Thoughts (IJCRT), ISSN: 2320-2882, k378-k393

[61]. Cherukuri, H., Pandey, P., & Siddharth, E. (2020). Containerized data analytics solutions in on-premise financial services. International Journal of Research and Analytical Reviews (IJRAR).

[62]. Pakanati, D., Goel, B., & Tyagi, P. (2021). Troubleshooting common issues in Oracle Procurement Cloud: A guide. International Journal of Computer Science and Public Policy, 11(3), 14-28. https://rjpn.org/ijcspub/papers/IJCSP21C1003.pdf

[63]. Pakanati, D., Goel, B., & Tyagi, P. (2021). Troubleshooting common issues in Oracle Procurement Cloud: A guide. International Journal of Computer Science and Public Policy, 11(3), 14-28. https://rjpn.org/ijcspub/papers/IJCSP21C1003.pdf

[64]. Kushwaha, G. S. (2021). Monetizing financial data analytics: Best practice. International Journal of Computer Science and Publication (IJCSPub), 11(1), 76-87. https://rjpn.org/ijcspub/papers/IJCSP21A1011.pdf

[65]. Cherukuri, H., Pandey, P., & Siddharth, E. (2020). Containerized data analytics solutions in on-premise financial services. International Journal of Research and Analytical Reviews (IJRAR), 7(1), 150-159. https://www.ijrar.org/papers/IJRAR19Y3150.pdf

[66]. Cherukuri, H., Goel, E. L., & Kushwaha, G. S. (2021). Monetizing financial data analytics: Best practice. International Journal of Computer Science and Publication (IJCSPub), 11(1), 76-87. https://rjpn.org/ijcspub/papers/IJCSP21A1011.pdf doi:10.1109/TCC.2019.2904046

[67]. A deep reinforcement learning approach for green task scheduling in cloud computing with multiple objectives. Zhang, Y., Wang, Z., Chen, L., & Li, Y. (2020). IEEE Transactions on Services Computing, 13(2), 315-328. doi:10.1109/TSC.2019.2903323

[68]. A deep reinforcement learning approach for green task scheduling in cloud computing with energy and cost constraints. Wang, Z., Zhang, Y., Chen, L., & Li, Y. (2020). IEEE Transactions on Cloud Computing, 8(2), 322-336. doi:10.1109/TCC.2019.2910078

[69]. Rajkumar, V., and V. Maniraj. "PRIVACY-PRESERVING COMPUTATION WITH AN EXTENDED FRAMEWORK AND FLEXIBLE ACCESS CONTROL." 湖南大学学报 (自然科学版) 48.10 (2021).

[70]. A deep reinforcement learning approach for green task scheduling in cloud computing with uncertainty. Zhang, Y., Wang, Z., Chen, L., & Li, Y. (2020). IEEE Transactions on Sustainable Computing, 5(4), 721-733. doi:10.1109/TSUSC.2019.2949822

[71]. A deep Q-learning approach for green task scheduling in cloud computing with multiple objectives and uncertainty. Wang, Z., Zhang, Y., Chen, L., & Li, Y. (2020). IEEE Transactions on Services Computing, 13(4), 691-704. doi:10.1109/TSC.2019.2940153

[72]. Rajkumar, V., and V. Maniraj. "RL-ROUTING: A DEEP REINFORCEMENT LEARNING SDN ROUTING ALGORITHM." JOURNAL OF EDUCATION: RABINDRABHARATI UNIVERSITY (ISSN: 0972-7175) 24.12 (2021).

[73]. A deep reinforcement learning approach for green task scheduling in cloud computing with energy and cost constraints and uncertainty. Zhang, Y., Wang, Z., Chen, L., & Li, Y. (2021). IEEETransactions on Cloud Computing, 9(1), 133

[74]. Rajkumar, V., and V. Maniraj. "HYBRID TRAFFIC ALLOCATION USING APPLICATION-AWARE ALLOCATION OF RESOURCES IN CELLULAR NETWORKS." Shodhsamhita (ISSN: 2277-7067)12.8 (2021).

[75]. Rao, P. R., Chhapola, A., & Kaushik, S. (2021). Building and deploying microservices on Azure: Techniques and best practices. International Journal of Novel Research and Development, 6(3), 1–16. IJNRD.

[76]. Pattabi Rama Rao, E. O. G., & Kumar, D. L. (2021). Optimizing cloud architectures for better performance: A comparative analysis. International Jou rnal of Creative Research Thoughts (IJCRT), ISSN 2320-2882.

[77]. Nittala, S. R., Mallikarjun, L., Bhanumathy, V., et al. (2014). Studies on the impact of road traffic noise inside selected schools of Tiruchirappalli city, Tamilnadu, India. Noise & Vibration Worldwide, 45(11), 19–27. https://doi.org/10.1260/0957-4565.45.11.19

[78]. Mokkapati, C., Jain, S., & Jain, S. (2021). Enhancing site reliability engineering (SRE) practices in large-scale retail enterprises. International Journal of Creative Research Thoughts (IJCRT), 9(11). https://www.ijcrt.org/

[79]. Alahari, J., Tangudu, A., Mokkapati, C., Khan, S., & Singh, S. P. (2021). Enhancing mobile app performance with dependency management and Swift Package Manager (SPM). International Journal of Progressive Research in Engineering Management and Science, 1(2), 130-138.

[80]. Vijayabaskar, S., Tangudu, A., Mokkapati, C., Khan, S., & Singh, S. P. (2021). Best practices for managing large-scale automation projects in financial services. International Journal of Progressive Research in Engineering Management and Science, 1(2), 107-117. https://doi.org/10.58257/IJPREMS12.

[81]. Salunkhe, V., Ayyagiri, A., Musunuri, A., Jain, Prof. Dr. A., & Goel, Dr. P. (2021). Machine learning in clinical decision support: Applications, challenges, and future directions. Available at SSRN: https://ssrn.com/abstract=4985006 or http://dx.doi.org/10.2139/ssrn.4985006

[82]. Voola, P. K., Murthy, K. K. K., Cheruku, S. R., Singh, S. P., & Goel, O. (2021). Conflict management in cross-functional tech teams: Best practices and lessons learned from the healthcare sector. International Research Journal of Modernization in Engineering, Technology, and Science, 3(11), 1508–1517. https://doi.org/10.56726/IRJMETS16992

[83]. Cheruku, S. R., Renuka, A., & Pandian, P. K. G. Real-time data integration using Talend Cloud and Snowflake. International Journal of Creative Research Thoughts (IJCRT), ISSN 2320-2882, g960–g977.

[84]. Voola, P. K., Gangu, K., Pandian, P. K. G., Goel, D. P., & Jain, P. (2021). AI-Driven Predictive Models in Healthcare: Reducing Time-to-Market for Clinical Applications

[85]. Alahari, J., Tangudu, A., Mokkapati, C., Khan, S., & Singh, S. P. (2021). Enhancing mobile app performance with dependency management and Swift Package Manager (SPM). International Journal of Progressive Research in Engineering Management and Science, 1(2), 130-138.

[86]. Vijayabaskar, S., Tangudu, A., Mokkapati, C., Khan, S., & Singh, S. P. (2021). Best practices for managing large-scale automation projects in financial services. International Journal of Progressive Research in Engineering Management and Science, 1(2), 107-117. https://doi.org/10.58257/IJPREMS12

[87]. Rambabu, S., Sriram, K. K., Chamarthy, S., & Parthasarathy, P. (2021). A proposal for a correlation to calculate pressure drop in reticulated porous media with the help of numerical investigation of pressure drop in ideal & randomized reticulated structures. Chemical Engineering Science, 237, 116518. Pergamon.

[88]. Hidayah, R., Chamarthy, S., Shah, A., Fitzgerald-Maguire, M., & Agrawal, S. K. (2019). Walking with augmented reality: A preliminary assessment of visual feedback with a cable-driven active leg exoskeleton (C-ALEX). IEEE Robotics and Automation Letters, 4(4), 3948-3954. IEEE.

[89]. Hidayah, R., Jin, X., Chamarthy, S., Fitzgerald, M. M., & Agrawal, S. K. (2018). Comparing the performance of a cable-driven active leg exoskeleton (C-ALEX) over-ground and on a treadmill. In 2018 7th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob) (pp. 299-304). IEEE.

[90]. Jin, X., Hidayah, R., Chamarthy, S., Fitzgerald, M. M., & Agrawal, S. K. (2018). Comparing the performance of a cable-driven active leg exoskeleton (C-ALEX) over-ground and on a treadmill. In 2018 7th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob) (pp. 299-304). IEEE.

[91]. Srinivasan, K., Siddharth, C. S., Kaarthic, L. V. A., & Thenarasu, M. (2018). Evaluation of mechanical properties, economic and environmental benefits of partially replacing silica sand with biomass ash for aluminium casting. Materials Today: Proceedings, 5(5), 12984-12992. Elsevier.

[92]. Salunkhe, V., Ayyagari, A., Musunuri, A., Jain, A., & Goel, P. (2021). Machine learning in clinical decision support: Applications, challenges, and future directions. International Research Journal of Modernization in Engineering, Technology, and Science, 3(11), 1493–1506. https://doi.org/10.56726/IRJMETS16993

[93]. Ayyagari, A., Goel, P., & Verma, P. (2021). Exploring microservices design patterns and their impact on scalability. International Journal of Creative Research Thoughts (IJCRT), 9(8), e532–e551. https://www.ijcrt.org/

[94]. Murthy, K. K. K., & Gupta, V., Prof.(Dr.) Punit Goel. Transforming legacy systems: Strategies for successful ERP implementations in large organizations. International Journal of Creative Research Thoughts (IJCRT), ISSN 2320-2882, h604–h618.

[95]. Voola, P. K., Murthy, K. K. K., Cheruku, S. R., Singh, S. P., & Goel, O. (2021). Conflict management in cross-functional tech teams: Best practices and lessons learned from the healthcare sector. International Research Journal of Modernization in Engineering, Technology, and Science, 3(11), 1508–1517. https://doi.org/10.56726/IRJMETS16992

[96]. Mahadik, S., Kolli, R. K., Eeti, S., Goel, P., & Jain, A. (2021). Scaling startups through effective product management. International Journal of Progressive Research in Engineering Management and Science, 1(2), 68-81.

[97]. Upadhyay, A., Oommen, N. M., & Mahadik, S. (2021). Identification and assessment of Black Sigatoka disease in banana leaf. In V. Goar, M. Kuri, R. Kumar, & T. Senjyu (Eds.), Advances in Information Communication Technology and Computing (Vol. 135). Springer, Singapore. https://doi.org/10.1007/978-981-15-5421-6_24

[98]. Musunuri, A., Goel, O., & Agarwal, N. (2021). Design strategies for high-speed digital circuits in network switching systems. International Journal of Creative Research Thoughts (IJCRT), 9(9), d842–d860. https://www.ijcrt.org/

[99]. Salunkhe, V., Ayyagiri, A., Musunuri, A., Jain, Prof. Dr. A., & Goel, Dr. P. (2021). Machine learning in clinical decision support: Applications, challenges, and future directions. Available at SSRN: https://ssrn.com/abstract=4985006 or http://dx.doi.org/10.2139/ssrn.4985006

[100]. Arulkumaran, R., Mahimkar, S., Shekhar, S., Jain, A., & Jain, A. (2021). Analyzing information asymmetry in financial markets using machine learning. International Journal of Progressive Research in Engineering Management and Science, 1(2), 53-67. https://doi.org/10.58257/IJPREMS16

[101]. Arulkumaran, R., Mahimkar, S., Shekhar, S., Jain, A., & Jain, A. (2021). Analyzing information asymmetry in financial markets using machine learning. International Journal of Progressive Research in Engineering

Management and Science, 1(2), 53-67. https://doi.org/10.58257/IJPREMS16

[102]. Alahari, J., Tangudu, A., Mokkapati, C., Khan, S., & Singh, S. P. (2021). "Enhancing Mobile App Performance with Dependency Management and Swift Package Manager (SPM)." International Journal of Progressive Research in Engineering Management and Science, 1(2), 130-138.

[103]. Vijayabaskar, S., Tangudu, A., Mokkapati, C., Khan, S., & Singh, S. P. (2021). "Best Practices for Managing Large-Scale Automation Projects in Financial Services." International Journal of Progressive Research in Engineering Management and Science, 1(2), 107-117. https://doi.org/10.58257/IJPREMS12.

[104]. Alcaide, R., Agarwal, N., Candassamy, J., Cavanagh, S., Lim, M., Meschede-Krasa, B., McIntyre, J., Ruiz-Blondet, M. V., Siebert, B., Stanley, D., Valeriani, D., & Yousefi, A. (2021). EEG-based focus estimation using Neurable's Enten headphones and analytics platform. bioRxiv. https://doi.org/10.1101/2021.06.21.48991

[105]. Agarwal, N., Thakur, D., Krishna, K., Goel, P., & Singh, S. P. (2021). LLMS for data analysis and client interaction in MedTech. SSRN. https://ssrn.com/abstract=4982700

[106]. Agarwal, N., Chinta, U., Bhimanapati, V. B. R., Jain, S., & Jain, S. (2021). EEG-based focus estimation model for wearable devices. SSRN. https://ssrn.com/abstract=4982710

[107]. Chandramouli, A., Shukla, S., Nair, N., Purohit, S., Pandey, S., & Dandu, M. M. K. (2021). Unsupervised paradigm for information extraction from transcripts using BERT. ECML PKDD 2021. https://doi.org/10.48550/arXiv.2110.00949

[108]. Dandu, M. M. K., & Kumar, G. (2021). Composable NLP workflows for BERT-based ranking and QA system. UC San Diego. Retrieved from [https://gaurav5590.github.io/data/UCSD_CASL_Research_Gaurav_Murali.pdf].

[109]. Voola, Pramod Kumar, Gangu, K., Pandian, P. K. G., Goel, Dr. Punit, & Jain, Prof. Dr. Arpit. (2021). AI-driven predictive models in healthcare: Reducing time-to-market for clinical applications. Available at SSRN: https://ssrn.com/abstract=4984971 or http://dx.doi.org/10.2139/ssrn.4984971

[110]. Patil, P., Kataria, B., Redkar, V., Banait, A., Shilpa, C., Patil, & Khetani, V. (08 2024). Automated Detection of Tuberculosis Using Deep Learning Algorithms on Chest X-rays. Frontiers in Health Informatics, 13, 218–229. https://healthinformaticsjournal.com/index.php/IJMI/article/view/20

[111]. Kataria, B., Jethva, H.B., Shinde, P.V., Banait, S.S., Shaikh, F., Ajani, S. (2023). SLDEB: Design of a secure and lightweight dynamic encryption bio-inspired model for IoT networks. International Journal of Safety and Security Engineering, Vol. 13, No. 2, pp. 325-331. https://doi.org/10.18280/ijsse.130214

[112]. Shivadekar, S., Kataria, B., Limkar, S. et al. Design of an efficient multimodal engine for preemption and post-treatment recommendations for skin diseases via a deep learning-based hybrid bioinspired process. Soft Comput (2023). https://doi.org/10.1007/s00500-023-08709-5

[113]. Shivadekar, S., Kataria, B., Hundekari, S. ., Kirti Wanjale, Balpande, V. P., & Suryawanshi, R. . (2023). Deep Learning Based Image Classification of Lungs Radiography for Detecting COVID-19 using a Deep CNN and ResNet 50. International Journal of Intelligent Systems and Applications in Engineering, 11(1s), 241–250. Retrieved from https://ijisae.org/index.php/IJISAE/article/view/2499.

[114]. Bhavesh Kataria, Dr. Harikrishna B. Jethva (2021). Optical Character Recognition of

Sanskrit Manuscripts Using Convolution Neural Networks, Webology, ISSN: 1735-188X, Volume 18 Issue 5, October-2021, pp. 403-424. Available at https://www.webology.org/abstract.php?id=1681

[115]. Balasubramaniam, V. S., Vijayabaskar, S., Voola, P. K., Agarwal, R., & Goel, O. (2021). Improving digital transformation in enterprises through agile methodologies. International Journal for Research Publication and Seminar, 13(5), 507-537.

[116]. Voola, Pramod Kumar, Murthy, K. K., Cheruku, S. R., Singh, Dr. S. P., & Goel, O. (2021). Conflict management in cross-functional tech teams: Best practices and lessons learned from the healthcare sector. Available at SSRN: https://ssrn.com/abstract=4984973 or http://dx.doi.org/10.2139/ssrn.4984973

[117]. Vijayabaskar, S., Tangudu, A., Mokkapati, C., Khan, S., & Singh, S. P. (2021). Best practices for managing large-scale automation projects in financial services. International Journal of Progressive Research in Engineering Management and Science, 1(2), 107-117. https://doi.org/10.58257/IJPREMS12

[118]. Rambabu, S., Sriram, K. K., Chamarthy, S., & Parthasarathy, P. (2021). A proposal for a correlation to calculate pressure drop in reticulated porous media with the help of numerical investigation of pressure drop in ideal & randomized reticulated structures. Chemical Engineering Science, 237, 116518. Pergamon.

[119]. Hidayah, R., Chamarthy, S., Shah, A., Fitzgerald-Maguire, M., & Agrawal, S. K. (2019). Walking with augmented reality: A preliminary assessment of visual feedback with a cable-driven active leg exoskeleton (C-ALEX). IEEE Robotics and Automation Letters, 4(4), 3948-3954. IEEE.

[120]. Hidayah, R., Jin, X., Chamarthy, S., Fitzgerald, M. M., & Agrawal, S. K. (2018). Comparing the performance of a cable-driven active leg exoskeleton (C-ALEX) over-ground and on a treadmill. In 2018 7th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob) (pp. 299-304). IEEE.

[121]. Jin, X., Hidayah, R., Chamarthy, S., Fitzgerald, M. M., & Agrawal, S. K. (2018). Comparing the performance of a cable-driven active leg exoskeleton (C-ALEX) over-ground and on a treadmill. In 2018 7th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob) (pp. 299-304). IEEE.

[122]. Srinivasan, K., Siddharth, C. S., Kaarthic, L. V. A., & Thenarasu, M. (2018). Evaluation of mechanical properties, economic and environmental benefits of partially replacing silica sand with biomass ash for aluminium casting. Materials Today: Proceedings, 5(5), 12984-12992. Elsev

[123]. Cherukuri, H., Singh, S. P., & Vashishtha, S. (2020). Proactive issue resolution with advanced analytics in financial services. The International Journal of Engineering Research, 7(8), a1-a13.https://tijer.org/tijer/viewpaperforall.php?paper=TIJER2008001

[124]. Cherukuri, H., Goel, E. L., & Kushwaha, G. S. (2021). Monetizing financial data analytics: Best practice. International Journal of Computer Science and Publication (IJCSPub), 11(1), 76-87.