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DEPARTMENT OF COMPUTER SCIENCE AND BUSINESS SYSTEMS
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MESSAGE FROM HEAD OF THE DEPARTMENT

The department of Computer Science & Business Systems is committed to excellence and success. Our students gain vital technical skills and soft skills with analytical thinking that make them industry ready. We offer our students the best hands-on experience, intellectual collaboration, research prospects, social impact projects, industry linkages so that they get the best placements and also contribute to societal growth. Department offers industry-based curriculum and an innovative teaching-learning process. The department always strives hard in tuning the young minds into globally competitive individuals by high quality, state-of-the-art education in computer science.

I am very proud to share that students of the department are working on interdisciplinary projects, publishing papers in international journals and at the same time a student wishes to achieve some recognition in extra-curricular or co-curricular activities.

Our faculty members aim at delivering high education blending their rich research experience with classroom teaching. I invite you to be part of our efforts as we drive the department of Computer Science to ever-greater heights. I wish all the students to outshine with a successful and accomplished career.



Dr.M.Malini
Associate Professor & Head
Computer Science and Business Systems

VISION AND MISSION OF THE DEPARTMENT

VISION OF THE DEPARTMENT

Achieve excellence in computer and business collaborations; develop technologically innovative and business transforming professionals.

MISSION OF THE DEPARTMENT

DM1: Provide a cutting-edge curriculum that blends computer science fundamentals with business insights.

DM2: Prepare students for diverse and dynamic career opportunities with quality teaching tools, infrastructure, or resources.

DM3: Provide a research-oriented environment that encourages faculty and students to engage in innovative projects.

DM4: Promote collaboration with industry and academic organizations to boost educational and research opportunities.

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO 1: To guarantee that graduates will be adept in applying the core knowledge of basic sciences, math, computer science, and business systems for the applications pertinent to diverse streams of engineering and technology.

PEO 2: To enhance graduates' fundamental competencies to apply computer science and data analytics tools knowledge to store, retrieve, deploy, and analyse data in the context of corporate enterprise.

PEO 3: To help graduates enter the workforce, establish themselves as professionals, and satisfy the diverse demands of business, academia, and research by putting their technical expertise and leadership abilities to use.

PEO 4: Entrepreneurs: To provide graduates with entrepreneurial abilities and traits that will enable them to comprehend how businesses run, recognize business issues, look for business possibilities, and become ready to manage businesses successfully.

PROGRAM OUTCOMES (POS)

PO 1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations

PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Individual and Team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: Project management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOS)

PSO 1: To develop, pick, and use relevant methods, resources, contemporary engineering tools, and business tools, such as data analytics and prediction, for complicated engineering operations and business solutions and to develop domain-specific approaches for decision-making in a number of important real-world problem domains.

PSO 2: To be able to use management techniques and entrepreneurial skills to find, evaluate, and create business opportunities with clever business ideas and to manage complex IT projects with an awareness of risk management procedures, operational ramifications, and ethical, financial, and environmental considerations

MESSAGE FROM EDITORIAL TEAM

Dear Reader,

I hope this message finds you well. I am excited to be contributing to this edition of our department's magazine. As we continue to navigate the fast-paced worlds of Computer Science and Business Systems, there are so many emerging trends and developments that are reshaping both industries. Our magazine provides an excellent platform to explore these topics, share knowledge, and showcase the incredible work of our department's students, faculties.

In this edition, we could highlight a variety of subjects—from breakthrough technologies in AI and machine learning to the evolving role of data analytics in business decision-making. We could also feature success stories of our graduates, upcoming research projects, and articles that bridge the gap between technology and business practices.

I believe our content should inspire curiosity, provoke thoughtful discussion, and provide insight into the ways in which the intersection of computer science and business continues to drive innovation and transformation. I look forward to collaborating with all of you on this exciting project, and I'm confident that together we can produce an issue that will engage, inform, and inspire our readers.

Best regards,

The Editorial Team

Chief Editor:

Dr.Malini.M,ASP&Head

Faculty Advisors:

Mr.S.Balaji,AP (Sl.Gr)/CS&BS

Mrs.S.Rajeshwari, AP/CS&BS

Student Editors:

D Sanjai-III CS&BS

Durgadevi.D-III CS&BS

Design Team:

Kiruthickrosan M-II CS&BS

Dharshinipriya-II CS&BS

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1. AI-BASED RESUME ANALYZER AND CANDIDATE SHORTLISTING SYSTEM

The traditional resume shortlisting process in HR departments is often time-consuming and prone to bias. This project presents an AI-based resume analyzer that uses Natural Language Processing (NLP) to automatically parse, classify, and rank candidate profiles based on job descriptions. The system accepts resumes in various formats, extracts key attributes such as skills, education, and experience, and compares them against job role requirements using a weighted scoring algorithm.

A trained machine learning model evaluates the relevance and recommends the top candidates to HR personnel. The system includes a web dashboard for HR teams and offers features like keyword heatmaps, diversity scoring, and predictive job-fit analytics. The tool also helps candidates receive suggestions for improving their resumes, enhancing their chances of selection. It integrates with existing Applicant Tracking Systems (ATS) through APIs. From a business perspective, this reduces the time and cost of hiring while ensuring higher quality shortlisting.

By

S.Yuvaraj-III/ CS&BS

Nadhiya.R-III/ CS&BS

Durgadevi.D-III/ CS&BS

Vinotha.T-III/ CS&BS

2. IOT-BASED SMART INVENTORY MANAGEMENT WITH BUSINESS ANALYTICS

Warehouse and retail businesses face major challenges in inventory mismanagement, leading to overstocking or stockouts. This project introduces a smart inventory system powered by Internet of Things (IoT) sensors and business intelligence tools. Every inventory item is tagged with RFID or barcodes, and its movement is tracked using Arduino-based IoT modules. The collected data is fed into a central system that updates stock levels in real-time.

When certain thresholds are breached, the system triggers auto-replenishment alerts to suppliers. Business analytics dashboards offer insights such as fast-moving items, seasonal trends, supplier performance, and demand forecasting. The system supports integration with ERP and CRM platforms for end-to-end automation. Cloud storage and remote monitoring features enhance scalability. This solution benefits e-commerce firms, supermarkets, and manufacturers by improving efficiency, reducing manual errors, and enabling data-driven stock decisions.

By

R SarathKumar- III/ CS&BS

D Sanjai-III/ CS&BS

P RoshanKumar-III/ CS&BS

S Kishan-III/ CS&BS

3. BLOCKCHAIN-BASED DIGITAL CERTIFICATE VERIFICATION SYSTEM

Fraudulent academic and professional certificates are a growing concern in recruitment and higher education. This project implements a secure digital certificate authentication system using blockchain technology. Each certificate issued by an institution is hashed and stored as a unique block on a decentralized Ethereum ledger. Authorized verifiers such as employers or foreign universities can scan a QR code embedded on the certificate to verify its authenticity.

The system is tamper-proof, eliminating any chance of duplication or forgery. It includes a web-based interface for institutions to upload certificates and for verifiers to check credentials. Smart contracts manage access permissions, ensuring data privacy. From a business angle, the system reduces background verification costs and increases trust among stakeholders. Educational institutions can adopt this system as a SaaS offering, improving their global reputation and compliance standards.

By

Mohammed Irfaan M-III/ CS&BS

Rishe C S-III/ CS&BS

Manikkam V-III/ CS&BS

4. Software for Speech Language Therapy Clinical Services

Speech-Language Therapy Clinical Services is a software designed to assist individuals with speech and language disorders. In this endeavor, the application seeks to provide critical support for speech language pathologists (SLPs) to facilitate effective guidance and personalized therapy for individuals with various disorders. The software combines evidence-based techniques with interesting interactive features, thus providing treatment plans adapted to individual needs. Fundamental features include speech recognition technology for real-time feedback, flexible exercises that target patient-specific speech and language skills, and monitoring tools that allow both therapists and clients to track progress over time.

The software also presents a user-friendly interface accommodating various ages and skill levels, which engenders user interest and motivation throughout the therapeutic process. Preliminary user feedback has shown that the software greatly improves patient outcomes and increases the efficiency of therapy delivery. In this paper, the software development is documented, along with the technologies implemented and with their effects on the workings of any clinic adopting such software. This process is then complemented by an emphasis on the potential of the software in transforming the very nature of conventional speech-language therapy practice.

By

Saravanan V-III/ CS&BS

Sarath Arjun R-III/ CS&BS

Vignesh T-III/ CS&BS

Harshitha B-III/ CS&BS

5. PREDICTIVE ANALYTICS FOR STUDENT PLACEMENT READINESS

Educational institutions struggle to identify students at risk of not getting placed. This project aims to solve this by analyzing various academic, behavioral, and skill-related parameters to predict a student's placement probability. Using a dataset of previous placement records, CGPA, test scores, internship history, and soft skills assessments, a machine learning model is trained to classify students into high, medium, and low placement readiness.

The system includes dashboards for placement officers to view real-time statistics, performance gaps, and intervention suggestions. Personalized reports are generated for each student with recommended skill upgrades. Integration with the institution's ERP and Learning Management System (LMS) ensures seamless data flow. This tool not only helps increase placement percentages but also enables targeted training programs, boosting institutional ranking and student satisfaction.

By

R Gowrishankar-III/ CS&BS

P Yabesh Martin-III/ CS&BS

K Yokeswaran-III/ CS&BS

6. AI VIRTUAL FINANCIAL ADVISOR CHATBOT

Personal finance management is often neglected by young adults and small business owners due to a lack of awareness or access to financial advisory services. This project proposes an AI-driven virtual assistant that helps users track expenses, suggest budgets, and recommend tax-saving investments. The chatbot is powered by NLP and trained on common financial queries, income-tax rules, and investment data. Users can interact through voice or chat interfaces and receive customized insights based on their financial profile.

The backend is integrated with secure banking APIs and uses encryption for data protection. Business logic modules handle scenarios like budget alerts, savings goals, and EMI calculators. The system is accessible through web and mobile platforms. It holds value for fintech startups, banks, and digital wallets aiming to add value to their offerings through intelligent financial planning tools.

By

K.Varshitha-III/ CS&BS

G.Varshitha-III/ CS&BS

7. CUSTOMER CHURN PREDICTION SYSTEM FOR E-COMMERCE

Retention is a key metric in e-commerce platforms, and losing loyal customers can be expensive. This project uses historical transaction data, customer behavior, and engagement metrics to predict the likelihood of a customer discontinuing their activity. Features such as frequency of purchases, time since last order, return rate, and customer complaints are used to train a deep learning model. Customers are scored based on churn probability and segmented for targeted marketing interventions.

The system also suggests personalized offers to retain high-risk customers. A business intelligence dashboard visualizes the churn rate by category, geography, and demographics. Integrating this model with CRM systems allows for real-time action such as push notifications and email campaigns. The project provides a direct impact on increasing customer lifetime value and reducing marketing costs.

By

B.ManishReddy-III/ CS&BS

P.VarunRishi-III/ CS&BS

R.DevanandaReddy-III/ CS&BS

P.Harshavardhan-III/ CS&BS

8. AI-BASED INTERVIEW PREPARATION APPLICATION

The placement process is becoming increasingly competitive, and students often struggle with interview readiness. This mobile app simulates interviews using AI to ask domain-specific and HR-based questions through voice interaction. It evaluates the user's tone, confidence, grammar, and content in real time. Using NLP and voice recognition, the system scores responses and offers instant feedback with tips for improvement.

The app also includes modules for mock aptitude tests, resume evaluations, and company-specific interview questions. A performance dashboard tracks progress over time. This application is especially useful for final-year students and job seekers. Institutions can use the app as a part of placement training, while edtech startups can adopt it to scale their offerings.

By

Mr S.Divagar-II/ CS&BS

Mr S.syed sha Mohamed jafar-II/ CS&BS

Mr A.khizar ansari-II/ CS&BS

Mr S.Adhityasriram-II/ CS&BS

9. AI-POWERED CAREER GUIDANCE SYSTEM USING STUDENT PROFILING

This project presents an intelligent career guidance system tailored for undergraduate students, particularly in the CSBS domain. The system utilizes AI techniques such as clustering and decision trees to analyze students' academic records, skill sets, interests, and extracurricular achievements.

Based on the profile, it suggests potential career paths including IT services, fintech, business analytics, product management, and higher education. The platform integrates APIs from Coursera and LinkedIn Learning to recommend relevant courses for skill-building. It also features a chatbot interface to address FAQs and uses sentiment analysis to understand student feedback.

Business rules are encoded to align student goals with current market trends. The system provides analytics to faculty and career advisors through dashboards, helping improve placement outcomes and academic planning. By bridging the gap between academia and industry, this solution supports personalized learning and decision-making.

By

K M Ragishwaran-II/CS&BS

Nandhakumar-II/CS&BS

Madhumitha-II/CS&BS

Dharshinipriya-II/CS&BS

A. Indhu-II/CS&BS

10. **BLOCKCHAIN-BASED VOTING SYSTEM FOR INSTITUTIONAL ELECTIONS**

This project explores the implementation of a blockchain-based voting platform intended to secure and digitize elections in academic institutions. Built on Ethereum's blockchain, it ensures transparency, immutability, and resistance to tampering. Voter registration is integrated with face recognition technology using OpenCV, and unique blockchain keys are assigned to each student. Voters can cast votes through a decentralized app (DApp), and results are computed automatically and securely.

This system also features smart contracts to enforce rules such as voting deadlines and access permissions. Admins can audit results in real-time with zero risk of manipulation. The project demonstrates how emerging technologies like blockchain can address the long-standing problem of electoral fraud. Moreover, the platform can be extended for alumni polls, club elections, and decision-making surveys. It represents a powerful blend of CS fundamentals, decentralized technologies, and governance.

By

V.Ganga Prakashini-II/ CS&BS

V.Shobana-II/ CS&BS

A.Kiruba Angel-II/ CS&BS

R. Prathiyuksha-II/ CS&BS

11. INTELLIGENT EXPENSE MANAGEMENT AND FINANCIAL PLANNING APP

This mobile-based application uses machine learning and business analytics to assist users in tracking, categorizing, and managing their daily expenses. Users can scan bills using OCR, which are then analyzed and sorted into spending categories like food, rent, utilities, and travel. The system generates visual charts that show monthly trends, peak spending, and savings suggestions. It also uses predictive models to forecast future expenses and alerts users about upcoming bills.

Tax-saving recommendations are generated based on spending patterns and income data. Data security is ensured using AES encryption and secure cloud storage. The project integrates personal finance with intelligent algorithms, providing business insights at the individual level. This application can be adapted by startups or fintech companies and monetized through partnerships with banks or credit card companies. It helps CSBS students understand both financial literacy and system development.

By

Dharanish AM-II/ CS&BS

Kiruthickrosan M-II/ CS&BS

Praneethkumar P-II/ CS&BS

Vidyasagar Pathak-II/ CS&BS

12. AUTOMATED RESUME SCREENING TOOL USING NATURAL LANGUAGE PROCESSING

Recruitment processes often involve screening hundreds of resumes, a task that is both time-consuming and prone to bias. This project proposes a web-based solution that automates resume evaluation using NLP techniques. Resumes are parsed to extract key elements such as skills, experience, education, and certifications. A rule-based and ML-enhanced matching system ranks candidates against job descriptions based on relevance scores. The system generates insights like top skills per role and hiring trend analytics.

Integration with Applicant Tracking Systems (ATS) and LinkedIn APIs is supported. Business logic ensures unbiased screening and GDPR compliance. An admin dashboard allows recruiters to manage shortlists, schedule interviews, and track applicant metrics. This tool is especially valuable for HR departments, tech recruiters, and placement cells, making the hiring process faster and more efficient. It also introduces students to the importance of AI ethics in HRTech applications.

By

Mr C.Abhishek-II/ CS&BS

Mr M.Yathendra Kumar-II/ CS&BS

Mr M.Narasimha-II/ CS&BS

Mr B.Yuvaraju-II/ CS&BS

13. **BUSINESS INTELLIGENCE SYSTEM FOR PREDICTING PRODUCT SALES**

This project implements a Business Intelligence (BI) dashboard that predicts the sales performance of retail products using historical data and machine learning. The system collects data from POS systems and e-commerce platforms, cleans it using ETL processes, and stores it in a cloud-based data warehouse. Predictive models like Linear Regression and Random Forest are used to forecast future demand.

BI tools like Power BI or Tableau are used to visualize KPIs such as monthly sales, profit margins, and stock turnover. Anomaly detection features help identify unusual trends like sudden drops in sales. The project also includes a recommendation engine that suggests pricing strategies and promotional periods. Retail managers can use the dashboard to plan inventory, manage supply chains, and allocate budgets more effectively. This end-to-end system reflects the CSBS vision by combining technology, analytics and decision support.

By

Arul.M-II/ CS&BS

Yuva Shankar.S-II/ CS&BS

Prem.A-II/ CS&BS

Prithviraj.C-II/ CS&BS

14. **AI-POWERED RESUME SHORTLISTING AND JOB MATCHING SYSTEM**

This project proposes an AI-based system for intelligent resume shortlisting, aimed at automating the recruitment process. It leverages Natural Language Processing (NLP) to parse and extract data from resumes and match them against job descriptions using semantic similarity algorithms.

The system is trained on real-world job market data, including roles, responsibilities, and industry-specific skill requirements. By ranking candidates based on their job fit score, the system offers HR teams a faster, more accurate method for filtering applications. The application provides recruiters with a customizable dashboard for filtering by experience, education, or skill gaps. It also includes an applicant tracking module and visual analytics for hiring trends.

The system is deployed using a web-based platform and supports integration with LinkedIn APIs. This project benefits both businesses in reducing hiring costs and candidates by improving job role alignment. Security protocols ensure the confidentiality of personal data, and GDPR compliance is maintained. It supports SaaS-based deployment, making it scalable for small to large enterprises.

By

Mr C.Abhishek-II/ CS&BS

Mr M.Yathendra Kumar-II/ CS&BS

Mr M.Narasimha-II/ CS&BS

15. SMART INVENTORY AND WAREHOUSE MANAGEMENT USING IOT AND ANALYTICS

This project involves the development of a smart warehouse system that utilizes Internet of Things (IoT) sensors and data analytics to track and manage inventory in real time. Each product is tagged with RFID, and IoT devices monitor location, temperature, and quantity in the warehouse. A centralized dashboard provides a visual overview of inventory movement, alerts for low-stock or overstock conditions, and predicts future demand using time-series forecasting.

The project employs Python for backend logic, Arduino-based hardware integration, and Power BI for visualization. It improves supply chain transparency, reduces wastage, and enhances operational efficiency. Businesses can reduce holding costs and optimize procurement using actionable insights. The system supports REST API integration with ERP tools like SAP and Tally. Anomaly detection modules detect unusual usage or theft. Historical reports help evaluate supplier performance. With smart analytics, this project demonstrates how IoT can revolutionize inventory systems in logistics, retail, and manufacturing.

By

Mohammed Irfaan M-III/ CS&BS

Rishe C S-III/ CS&BS

Manikkam V-III/ CS&BS

16. BLOCKCHAIN-BASED CERTIFICATE VERIFICATION PLATFORM FOR EDUCATIONAL INSTITUTIONS

This project offers a decentralized solution to the growing problem of fake academic certificates. Using blockchain technology, it allows educational institutions to upload student certificates, which are stored as hashed transactions on a blockchain ledger. Employers or third-party verifiers can scan a QR code on the certificate and instantly check its authenticity. The platform is built on Ethereum with smart contracts used to verify certificate issuance. It supports multi-signature authentication, ensuring that only authorized personnel can upload academic records.

A web interface enables real-time verification and analytics. For educational institutions, it reduces administrative burden and enhances brand credibility. For students, it provides a secure digital repository of all academic records. The system is scalable and adaptable to government digital education frameworks. Institutions can offer blockchain certificates as a value-added service, opening avenues for tech-driven academic governance. Data privacy and legal compliance are ensured via encryption and access controls.

By

P RoshanKumar-III/ CS&BS

S Kishan-III/ CS&BS

17. AI-BASED FINANCIAL ASSISTANT FOR BUDGETING AND INVESTMENT PLANNING

This system is designed as an AI-based personal financial advisor that helps users manage their income, expenses, and investments. It uses machine learning models to track spending patterns, categorize transactions, and suggest personalized budgets. It also recommends investment options based on risk appetite, financial goals, and market performance. The assistant is accessible via a chatbot interface and is integrated with UPI/payment APIs for real-time updates. Users can set monthly savings goals, get alerts on unusual transactions, and view progress using a financial dashboard.

The system supports both salaried and freelance users, offering tax-saving advice and retirement planning. It employs reinforcement learning to refine suggestions over time. Data is encrypted using AES-256 and complies with banking norms. The business model includes freemium plans with premium services like tax filing and portfolio management. With the rise of digital banking, this project offers real-world applicability and a strong business use case.

By

Nadhiya.R-III/ CS&BS

Durgadevi.D-III/ CS&BS

18. AUTOMATED LOAN PROCESSING AND RISK ASSESSMENT SYSTEM USING ML

This project automates the loan approval process for banks and NBFCs using a machine learning-based credit risk model. Traditional loan processing is time-consuming and error-prone, but with this system, user data like salary, credit history, and bank statements are analyzed in real-time. The model predicts default probability using classification algorithms such as Random Forest and XGBoost.

The system generates a credit score and approval recommendation, reducing manual intervention. It includes a dashboard for loan officers and a customer portal for tracking applications. Fraud detection modules analyze anomalies in application patterns. Regulatory compliance is ensured through digital KYC and audit trails. Business value is created by increasing approval accuracy, reducing bad loans, and speeding up disbursement.

The system is modular and can be integrated into existing banking platforms. Deployment is cloud-based, ensuring scalability and accessibility. It is a practical solution aligned with the fintech revolution.

By

Mr A.khizar ansari-II/ CS&BS

Mr S.Adhityasriram-II/ CS&BS

19. CAMPUS PLACEMENT INSIGHTS AND PREDICTION SYSTEM

The project proposes a predictive analytics solution for analyzing campus placement data and forecasting student placement probabilities. It collects data such as academic performance, extracurricular activities, internship history, and skill certifications. A machine learning model predicts placement likelihood and identifies key factors affecting employability.

The system helps students focus on areas needing improvement and guides faculty to refine training programs. Administrators can view department-wise placement trends, company feedback, and batch-wise skill gaps. The system uses Power BI for visual dashboards and integrates with student information systems.

Alerts are sent to students who fall below certain thresholds. Companies can use anonymized data to identify potential hires. The business side includes insights for career planning and training ROI analysis. This project bridges the gap between academic performance and industry expectations, supporting outcome-based education goals.

By

Dharshinipriya-II/CS&BS

A. Indhu-II/CS&BS

20. AI-POWERED RESUME SCREENING AND CANDIDATE RANKING SYSTEM

Recruitment is a time-intensive process, especially when dealing with a large volume of applications. This project introduces an AI-based resume screening system that automates the shortlisting of candidates based on job descriptions. Using Natural Language Processing (NLP), the system extracts key skills, experience, and qualifications from resumes and matches them against employer requirements.

A scoring algorithm ranks candidates in order of relevance. The application also identifies red flags such as employment gaps or frequent job changes. Integrated with a recruiter dashboard, the system offers visual analytics, candidate comparison charts, and auto-generated interview questions based on resumes.

Businesses benefit by reducing HR operational costs and increasing recruitment accuracy. The system also adapts over time through machine learning, improving recommendations with continued use. Future scope includes multilingual resume support and integration with LinkedIn and GitHub for real-time profile analysis.

By

K M Ragishwaran-II/CS&BS

Nandhakumar-II/CS&BS

Madhumitha-II/CS&BS

21. SMART INVENTORY MANAGEMENT USING IOT SENSORS AND BUSINESS ANALYTICS

Traditional inventory management often suffers from human error, stockouts, and overstocking. This project proposes a smart inventory system using Internet of Things (IoT) devices to automate tracking in real time. Sensors like RFID and weight detectors are used to monitor inventory levels continuously. The data is sent to a cloud platform where analytics models predict demand and optimize restocking schedules.

A dashboard provides insights on fast-moving items, dead stock, and seasonal trends. Alerts are generated for low stock and expiry dates. Integration with ERP systems ensures seamless procurement. The business value lies in reducing holding costs and improving service levels. Built using Python, Node MCU, and Power BI, the system supports both web and mobile interfaces. It is scalable and applicable in sectors like retail, pharma, and logistics.

By

K.Varshitha-III/ CS&BS

G.Varshitha-III/ CS&BS

22. BLOCKCHAIN-BASED ACADEMIC CERTIFICATE VERIFICATION SYSTEM

With the rise in academic fraud, verifying certificates is a pressing issue for both employers and institutions. This project leverages blockchain to provide a decentralized, tamper-proof solution for academic certificate verification. Each certificate is hashed and stored on a blockchain ledger using smart contracts.

A unique QR code on the certificate links to the blockchain record, allowing third parties to verify its authenticity. Institutions upload verified records, and employers or universities can check them without intermediaries. This drastically reduces background verification time and increases trust. Built using Ethereum and IPFS, the system ensures data immutability. It also features role-based access control and an admin panel for issuing institutions. Future enhancements include biometric verification and integration with government educational portals.

By

Prem.A-II/ CS&BS

Prithiviraj.C-II/ CS&BS

23. AI-BASED FINANCIAL ADVISOR WITH BUDGETING AND INVESTMENT FEATURES

Financial literacy and planning are crucial yet often overlooked areas. This project introduces a virtual financial advisor powered by artificial intelligence that helps users with budgeting, investment planning, and financial goal setting. Using user input and transaction history, the advisor creates personalized budgets and suggests investment portfolios based on risk appetite. It tracks spending patterns and alerts users on overspending.

The system integrates APIs from banks, mutual funds, and tax calculators. NLP-based chatbot handles financial queries and provides tax-saving tips. Users get visual dashboards for net worth, debt ratio, and savings. The backend is built on Python with TensorFlow, and frontend in React. It targets both individuals and fintech startups. Business integration includes freemium models and premium advisory services.

By

Arul.M-II/ CS&BS

Yuva Shankar.S-II/ CS&BS

24. STOCK MARKET SENTIMENT ANALYZER USING NEWS HEADLINES

This project analyzes stock market sentiment using financial news headlines and social media data. It collects real-time news and tweets related to specific stocks, performs sentiment analysis using NLP models such as BERT, and visualizes the bullish/bearish sentiment on a dashboard.

The system correlates this data with stock price movements to help investors make informed decisions. Sentiment scores and historical analysis can predict short-term trends. The application features filters by sector, company, and date range.

Built using Python, Django, and Plotly, it also includes a recommendation engine. It bridges the gap between financial news and decision-making, offering significant business value to traders, brokers, and financial institutions.

By

K M Ragishwaran-II/CS&BS

Nandhakumar-II/CS&BS

25. SMART ATTENDANCE SYSTEM USING FACIAL RECOGNITION

Manual attendance systems are time-consuming and error-prone. This project introduces a facial recognition-based attendance system that automates the process using AI and computer vision. The system captures student faces using a webcam and matches them with stored data using OpenCV and machine learning. Once verified, attendance is marked automatically.

A web dashboard allows faculty to view reports, generate monthly summaries, and send alerts for low attendance. The system supports multi-classroom environments and real-time sync with academic portals. It reduces administrative overhead, enhances security, and ensures authenticity. Privacy features include data encryption and face data masking. Future scope includes emotion detection and integration with RFID for hybrid authentication.

By

Durgadevi.D-III/ CS&BS

Vinotha.T-III/ CS&BS

26. CHURN PREDICTION IN E-COMMERCE USING CUSTOMER BEHAVIOR ANALYSIS

Retaining customers is more profitable than acquiring new ones. This project predicts customer churn in e-commerce platforms by analyzing user activity data such as browsing patterns, purchase frequency, cart abandonment, and complaints. A machine learning model classifies users into risk segments: high, medium, and low. Marketing teams can then target high-risk users with retention campaigns.

The system supports A/B testing for promotions and loyalty programs. Visual dashboards show churn trends by region, age group, and product category. Data preprocessing, model training (Random Forest, XGBoost), and deployment are done using Python and Flask. It integrates easily with existing CRM platforms. This tool empowers businesses with predictive insights to reduce churn and boost revenue.

By

S.Yuvaraj-III/ CS&BS

Nadhiya.R-III/ CS&BS