SYMBIOSIS INSTITUTE OF DIGITAL AND TELECOM MANAGEMENT

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CASES IN DIGITAL & TELECOM TECHNOLOGY MANAGEMENT

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SYMBIOSIS

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Volume 3

CA. Dr. Abhijit V. Chirputkar
Director, SIDTM

SIDTM's Case Studies in Digital and Telecom Management, the student journal of SIDTM, aims to motivate the students to learn and do research in the area of cases in the niche domain. Students will be writing case studies in the current areas of technology management which is changing very fast.

It is observed that cases in functional domains are available for students to learn; however case studies in the niche domain such as technology management are rare. Technology keeps on changing and so are the areas of technology usage in different sectors and industries. Digital transformation is affecting all industries and it is interesting to study the cases from this evolving field.

This will help students keep abreast of the current happenings in the area of Digital Technology Management and also help dissemination of knowledge, information and learning. Students are expected to have an enriching and life-turning experience which will enable them to reach new heights in their professional life. We at SIDTM foster sharpening of skills and enhancement of knowledge base in our students through various extra-curricular, co-curricular and curricular activities through faculty who not only keep themselves at par with the current developments, but also contribute to the expansion of the body of knowledge in their field of expertise. With very congenial and professional environment our faculty makes substantial contribution to the academia through quality teaching, publications, seminars, conferences, etc.

To facilitate this, SIDTM has been publishing Prevision- An Annual Telecom Forecast, Telecom Business Review Journal and Prayukti. To enhance domain specific knowledge among members of faculty and among students in the areas of case studies, SIDTM has come out with this new publication.

EDITOR'S MESSAGE

Dr. Sujata Joshi

Professor & Faculty incharge of Research & Publication, SIDTM

SIDTM-Student Case Folio: Cases in Digital and Telecom Technology Management" started in the year 2019, is an initiative by the institute to expose students to the nuances of case study writing and developing technology solutions to address the problems faced in these case studies. SIDTM is a techno- management business school that has remarkably evolved into a center for learning and excellence in the digital & telecom technology management domain. At SIDTM, we focus on Digital and Telecom management. The curriculum consists of core management subjects and is applied to digital technology management through case studies. While searching for case studies it was observed that although many case studies are available in the management domain there are very few magazines or case books which offer technology management case studies. SIDTM took this challenge as an opportunity to develop cases studies in the technology management domain which can be used in the classrooms.

Students were involved in this case study writing project. A set of 2 or 3 students under the mentorship of a faculty mentor took up problems or issues faced by companies, farmers, manufacturers etc. and how these could be resolved using technology solutions. This initiative proved to be a good learning experience for the students as they could relate how technologies can be applied to resolve problems faced by organizations. A brief abstract of these case studies has been printed in the form of a booklet which has been named as "SIDTM-Student Case Folio: Cases in Digital and Telecom Technology Management". The Volume 1 of the Case book was released in 2019. This volume contains abstracts of case studies on different techno-management topics such as: Implementation of AI ML In Dairy Sector, Technological Advancements in the Dairy Industry, Comprehensive Description on Automated, Hydroponic Indoor Farming System using LEDs, Cattle Health Events or Diseases and many more.

The full case studies will be made available on request.

On behalf of the SIDTM, we would like to take this opportunity to express our gratitude to all the Professors for their support and guidance and to the students who have directly or indirectly contributed to the magazine

Symbiosis Institute of Digital and Telecom Management works towards developing techno-managers by exposing the students to latest technology, enabling them to manage the technological aspects of an organization.

As a part of a Digital and telecom business school, that has adapted and catered to the needs of the ever-changing Digital Technology (ICT) industry, it gives us an immense pleasure to release the case study journal. The success of the lies in the collaborative efforts of the team members, students, and the faculty members.

The latest trends of ICT industry are researched and are brought out through insightful papers. This edition comprises of case studies in the technology management domain. The areas of focus are: Telecom, IoT, Cloud Management, Cyber Security, Forensics, Block chain Technology, Digital Transformation, data-driven marketing, electronic smart systems and drones etc. On behalf of the editorial board, we would like to take this opportunity to express our gratitude to all the Professors for their support and guidance and to the students who have directly or indirectly contributed to the magazine. We would love to hear your suggestions that could help us with the future editions.

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1. CS01
Implementation of AI ML In Dairy Sector

Abhilasha Rastogi, Aditi Marwaha, Abhijeet Pandey, Abhishek Anand, Anjali Srivastava, Jhaveri Miit Yashesh, Abdulla Siddiqui

A dairy farm is traditionally maintained by the farmer based on his observations over the livestock. The farmer looks after the farm a couple of times a day and quite a lot of attention is paid to the livestock during the milking. This traditional dairy farming and the general increase of farm sizes has led the farmers to give less attention to all the livestock on the farm. With the technological advancements in sensors and gathering data through Artificial Intelligence (AI) and Machine Learning (ML), this traditional dairy farming can become Smart Dairy Farming. The demand for dairy products is increasing and the reason for this is due to the increase in population. To meet the demand, there should be enough supply that is to be produced. And for this, productivity should also improve. Better technological techniques can help in improving milk yield and productivity. In this case, the main problem is the challenges faced by doing traditional dairy farming. A brief introduction of Challenges in India's dairy sector. Later, the case focuses on different technological aspects of improving the traditional method into a smart farming method. It also provides different case studies of different companies implementing smart dairy farming. Smart dairy farming includes Health Monitoring, Digital Identity creation, and a Cattle Trading marketplace. The case elaborates on how these technological methods can decrease the negative factors affecting the livestock as well as the productivity and increase the positive factors affecting the production by implementing these technological resources.

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2. CS02
Technological Advancements in the Dairy Industry

Adithya Rajeevan, Amarjit Saha, Shivam Singhal, Azbana Velati, Akshata Desai, Alisha Farzana, Ashutosh Mehra

D airy production has grown over many years to become a substantial source of high-quality nutrition for a large section of the world's population. However, it must continue to develop to contribute to sustainable diets. Technological innovation has

the potential to be a significant enabler. However, innovation can bring about major change and might have unforeseen, unfavorable, and undesired repercussions, which are experienced differently by different actors on the ground. Indian dairy farming has progressed and changed substantially since the white revolution. Technology has assisted the sector and its stakeholders in various ways, just as it does in any other industry.

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3. CS03
Comprehensive Description on Automated, Hydroponic Indoor Farming System using LEDs

Ankit Anand, Arnab Chatterjee, Ashley Felix Tuscano, Bansod Ajay Vishnu, Ananya Singh, Dharini Pal, Bhanu Bhatia

Farming is the backbone of the economic system of India with a critical role in its GDP growth. In addition to this, food production lies at the fundamental core of people's livelihood and basic needs. By 2050, the world's population is expected to reach 9.7 billion people, requiring a 70 percent increase in global food production in the following 30 years to feed everyone. Before fears of a worldwide food crisis can be dispelled, several barriers must be addressed, including rising temperatures and more frequent droughts as a result of global warming. As a result of these challenges, traditional agricultural practices are becoming increasingly inefficient and unreliable. It also took a hard hit with the pandemic and resulted in food insecurity. Owing to this, Indoor farming is being considered as a much more sustainable method today. Yields are often substantially higher than those obtained using traditional agricultural techniques. Indoor farming crops are produced in three dimensions rather than two, and they may be grown all year round, regardless of the weather. This case study aims to automate some of the processes of indoor agriculture by monitoring the parameters that contribute to healthy crop growth, such as temperature, humidity, and machine temperature, light intensity, and pH levels, and automating them to stay within the optimal range, where possible, or alerting the estate owner to take immediate action. The implementation of cutting-edge technologies like Robotics, IoT, and AI, vertical farming is reaching new heights with the aim to cultivate crops in a controlled environment, where we can closely monitor each parameter and tailor it accordingly to the needs.

4. CS04
Cattle Health Events or Diseases

Arnav Gupta, Chiranjeet Barkakoti, Dakhare Mahesh Diwakar, Hudli Viraj Mohan, Ankita Duttagupta, Arulmozhi, Meghna Pillala

Monitoring the behavior of dairy cattle may be used to determine their health, welfare, and comfort at the farm level. Changes in behavior are some markers of health and welfare issues in dairy animals. Hence, it is necessary to have knowledge about the different diseases, infections at various stages of the cattle life cycle to develop advanced systems for early detection and prevention. In terms of milk production, the time spent by the animals laying or feeding is critical. As a result, knowing their whereabouts is critical for monitoring and managing their behavioral patterns and activities in order to get data on their health and productivity. Some of the common diseases and health issues faced by the cattle during its life stages are Discussed in the case.

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5. CS05
Adoption of Digital Technologies in Agriculture In India

Dev Darshan, Devarasetti Harish, Jejurkar Ajay Ashok, Kartike Bhushan, Astha Jain, Pulkita Chawla, Chinmay Sheorey

In the ever-evolving digital era, digital technologies are transforming various sectors of the country's economy. In India, agriculture is the backbone of the economy, contributing around 50% of the country's workforce and 19-20% of the country's GDP. The advent of digital technologies like the Internet of Things (IoT), AI/ML, Bigdata, etc., transformed the traditional agricultural sector into a smart agricultural domain. However, in developing economies like India, the adoption is nascent. In this case study, we will analyse the challenges faced by India in the adoption of digital technologies in agriculture. We will also study how a business strategy can be implemented to make traditional agriculture into Digital agriculture by creating an ecosystem in tandem with the government, where a new space for the Agri-tech business will be created. These Agri-tech businesses will be providing Agri-tech based services to the farmers to enhance the yield productivity and improve the economy in the end.

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6. CS06
IOT Based Monitoring System for Mushroom Farming

Parth Tyagi, Magar Abhishek Trembak, Gaikwad Ajinkya Anil, Bakhle Apoorva Nilesh, Sweta Dasgupta, Debayan Majumdar, Memanamurupel Dheeraj Pu

In the food world, mushrooms are classified as vegetables, but they are not technically plants. They are part of the fugus kingdom. Mushrooms, although not a vegetable, provide different key elements and play a significant role in the Indian food market. Because mushrooms are so rich in nutrients, they have health benefits such as a reduced risk of obesity, overall mortality, diabetes, and heart disease. They also help maintain healthy skin and hair, as well as boost energy and reduce overall weight. On average, mushrooms are grown and processed manually, from seed production to packaging. Therefore, mushroom growers have to spend more time and effort to maintain sanitary conditions in the mushroom growing area, which is extremely difficult.

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7. CS07
Transformation in Indian Healthcare using Blockchain Technology

Midathada Leelu Gowri Shan, Nalin Verma, Padewar Aniket Pradeep, Parv Arora, Chellvamathi R S, Damle Mohini Jitendra, Dede Aniket Raghunath

Debate of this case study is to look at the present and traditional systems and then resolve with solutions a foremost such challenges such that these are addressed by the technology and blockchain technology solutions. Healthcare world over and within the India is poised on the brink of enhancement owing to the advancement in technologies available world over. With a growing population and a shift towards opting for technology and digital solutions, the healthcare landscape in India will soon be looking to adopt alternate models of health care delivery vis the traditional models. With the uptake of new technologies and with the changes across the healthcare industry, some of the major challenges would be: the integration of service, ensuring the quality of service, ensuring the security of internet connected medical device security and publicly sustainable pharmaceutical pricing.

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8. CS08
IoT in Monitoring and Controlling in Agriculture Sector

Nikhil Tukaram Salunke, Shan Shane Varikkattu, Prinson Philip, Rodricks Aaron Vivian, Debapriya Chowdhury, Deepsikha Hota, Gupta Divyansh Nagendra

The rapid growth of the world's population necessitates a change toward more efficient agricultural practices. Food security is a serious worry for most countries because of depleting natural resources, limited amount of arable land, and increasingly unpredictable weather conditions. As a result, the Internet of Things (IoT) and data analytics (DA) are being used to improve the agricultural sector's operational efficiency and productivity. The usage of wireless sensor networks (WSN) as a main driver of smart agriculture has shifted to the use of IoT and DA. WSN, radio frequency identification, cloud computing, middleware systems, and end-user applications are all part of the Internet of Things. Several advantages and challenges of IoT have been identified in this research. The IoT ecosystem is described, as well as how the fusion of IoT with DA enables smart agriculture. We also offer future trends and prospects, which are divided into four categories: technological innovations, application scenarios, business, and marketability the use of IoT and DA. WSN, radio frequency identification, cloud computing, middleware systems, and end-user applications are all part of the Internet of Things. Several advantages and challenges of IoT have been identified in this research. The IoT ecosystem is described, as well as how the fusion of IoT with DA enables smart agriculture. We also offer future trends and prospects, which are divided into four categories: technological innovations, application scenarios, business, and marketability

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9. CS09- Smart Waste Management in Agriculture

Nikhil Parikshit Anand, Pradumn Saxena, S.Pl.Subramaniyan, Gayathri Balaram, Dhas Kashmira Kiran, Harsh Trivedi, Charisha Shyam Sukha

As claimed by the Global Hunger Index (GHI) 2021, India ranks 101 out of 116 countries. Ironically the World Economic Forum states that the country has already reached food self-sufficiency in 2015, where the food production exceeded 270 million tonnes, which was way more than the estimated quantity of 225 to 230 million tonnes. Despite the agricultural wealth, India is struggling to feed the population and the primary reason behind this is agricultural food wastage. Agricultural waste is a byproduct of agriculture that may generate material that is useful to humans but has a lower economic worth than the cost of collecting, transportation, and treatment for

that purpose. Estimates of farm waste are sparse, although it is usually estimated that it accounts for a large portion of overall waste in the developed world. The inappropriate use of intensive agricultural practices and chemical misuse in agriculture are common in the agricultural sector, which has severe impact on rural populations and the climate system. From a variety of sources, rural trash is generated mostly through agriculture, livestock, and aquaculture. Agricultural waste management has grown increasingly significant as improper disposal has negative environmental consequences. Resource recovery from agricultural waste, which turns waste into usable resources, can help to reduce waste and the consumption of new resources. In this case study we have discussed the idea to reduce the agricultural waste with the help of various technologies.

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10. CS10
Use of Drones in Healthcare

Rahul Bardhan, Rajat Chanda, Shubham Pathak, Tarush Sood, Ganugapati Sai Alekhya, Kajal Mishra, Harshit Verma

In this decade, the term "drone" has become the most often used. Their technology has progressed, and their costs have decreased. They are currently widely employed in agriculture, environmental surveillance, public safety, retail product delivery, recreation, and other fields. Only recently have health-related applications become more widely researched and adopted. Given the requirement for a quick reaction to improve patient outcomes, the use of drone technology in emergency medicine seems particularly intriguing. Medical applications sources were further divided into three categories: public health/disaster relief, telemedicine, and medical transportation. Mass casualty care, data collecting, infectious illness, disaster relief, and emergency medicine are all public health/disaster relief. Drones assisting in surgical procedures in simulated hostile conditions such as battlefields are described in Telemedicine, and these drones can be deployed as telemedical devices in emergency scenarios. Medical supply and transportation encompass the delivery of medical supplies, patient evacuation, and commercial infrastructure application.

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11. CS11
Blockchain in Healthcare for Health Records

Rohan Naik, Sahil Saini, Tayade Rushikesh Bhanudas, Vikrant Nandkishor Pusdeka, Induja V, Pragya Srivastava, Jasmeet Singh

When the patients come to the emergency room, doctors have to act quickly and perform a series of treatments. They begin by speaking with the patient's relatives about their medical history. However, there are times when it takes a long time for a family member to get to the ER and give doctors much needed vital information. In addition, family members may miss important news or be uninformed of critical information regarding the patient, perhaps resulting in a fatal error on the part of the doctors. Reading of medical records is also a concern. Various teachings and hospitals follow different outlines to generate medical records, and reading all those records may cause confusion. Patients' misplacement is another concern, especially when patients have to maintain records for decades. Last but not the least, use of papers for medical records is not sustainable.

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12. CS12
Smart Dairy Industry & Smart Cattle Health Monitoring System Using IoT Detector

Rohan Naik, Sahil Saini, Sanchit Saxena, Sayan Roy Choudhury, Sawant Akshay Sudhakar, Tak Sachin Ramdas, Priyanka Bhandari, Karthika Hema Manasa M, Hemant Bhatt

Smart Livestock Monitoring and smart dairy farming with IoT sensors needs the capacity to predict and respond to cattle disease in advance with data driven initiatives. It's also critical to have reliable, dependable, and energy-efficient communications. As the world's population expands, milk consumption will inevitably rise. In industrialized countries, dairy products are consumed at a higher rate than in undeveloped countries. Better technical methods for increasing milk production are necessary to meet the increased demand for milk products. This study focuses on many facets of smart dairy farming, culminating in the proposal of a state-of-the-art framework that can assist farmers in increasing milk yield by utilizing various cutting-edge technology and a Smart Cattle Health Monitoring System with Reliable Communications based on IoT Sensors. To accurately diagnose cow disease far in advance, a fuzzy-based health monitoring module is being developed. The usage of IoT and AI technology is intended

to assist a farmer in overcoming several traditional farming challenges and increasing milk production. With minimum expenditures, these technological solutions can reduce the factors that negatively affect milk production while increasing those that positively affect production

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13. CS13
The Rise of Metaverse in The Healthcare Sector

Shashwat Krishna, Shashwat Parashar, Keerthana P, M Pooja, Shreya Ashok Kamble, Anurag Naik, Joy Chatterjee

Healthcare has always been a very lucrative and resource-intensive sector, along with this healthcare is one of the only sectors which has never peaked? in terms of it's digital transformation. The timeline started from times immemorial with home remedies, progressed through the two Great Wars and finally the world experienced the Primary Healthcare and Development movements. A metaverse is a network of 3D virtual worlds focused on social connection. It is defined as a simulated digital environment that employs augmented reality (AR), virtual reality (VR), and blockchain, as well as social media principles, to build spaces for rich user interaction that resemble the real world. The metaverse is the result of the convergence of three main technological revolutions, each of which has the potential to impact healthcare in its own way. This case study attempts to explore various challenges which ail the healthcare sector and how many of those can be mitigated when Healthcare in the Metaverse becomes mainstream.

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14. CS14
Tracking Mental Health and Preventing Suicides Using Machine Learning Techniques through Social Media

Soumyadip Das, Sourabh Purkait, Chaudhari Vipul Vijay, Vinayak Ghanshyam Chaudh, Mahale Asmita Milind, Manika Daruka, Jaggesh S R

This case analyses existing research based on several Machine Learning (ML) approaches used to track mental health and diagnose depression. This article investigates how facial expressions, photos, emotional chatbots, and messages on social media sites might be used to identify one's mental state and, ultimately,

depression. This article intends to present an overview of several ML strategies that aid in the detection and analysis of the mental state, and thereby depression, as well as research concerns linked to these techniques. We propose a solution to promote mental health well-being to the target audience who show signs of depression through social media sites, namely Instagram, Meta, Twitter, and Reddit.

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15. CS15
Use of Blockchain in Agriculture Supply Chain Management

Sourav Sonowal, Sudeep Khawas, Srijit Jagadeesan Nair, Sharma Vivek Vinay, Mayuri Diwakar Puri, Srishti Swain, Joshi Prasanna Prakash

Agricultural practice optimization for increased crop output is seen as a critical phenomenon in developing countries like India. Optimizing agricultural methods has become a need to enhance the economy while also meeting the food demand of an ever-growing population. Geographic circumstances in India are exceedingly varied, and as a result, they are regarded as a bottleneck for the country's agricultural business. Farming techniques in India are beset by a slew of problems, including meteorological circumstances, diverse geographic environments, traditional agricultural practices, and the country's economic and political situation. The solutions needed for optimization of the current Indian agriculture sector need to be diverse and customizable to all the varied requirements of the demography of our country. India is also a developing country therefore these technology solutions need to be cost effective and feasible from an implementation perspective.

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16. CS16
Medical Waste Management using IoT

Suryasish Majumdar, Akash Deep, Ronak Asodiya, Patil Harish Kishor, Modi Trisa Shaileshkumar, Muskan Shrivastava, Keshav Bajaj

With the recent advent of the Covid-19 pandemic, the world has a new shifted focus upon the medical industry. The practice of keeping the environment clean in order to minimize the transmission of germs, viruses, and other common infections is becoming increasingly popular. Waste created by biological processes has been a common source of inoculation of these diseases. Government bodies are ensuring

that the healthcare facilities are improving in a progressive nature. Having said that, it is critical to keep hospital workstations clean and follow an appropriate biomedical waste disposal procedure. Because of the expansion in infrastructure and healthcare personnel, it is critical that the functionality of healthcare spaces be greatly improved. This will call for the need for better waste disposal, collection and treatment facilities at hospitals. Given that majority of the waste disposal happens manually, this involves greater chances of human error. In the age of Industry 4.0, a technological revolution in the field of medical waste management seems due.

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17. CS17
Measuring the Creditworthiness of Agriculturalists and Microfinancing the Deserved Candidates

Poulami Nandi, S Asmitha, Rounak Saha, Yadav Sanchit Ashok, Kishor Basavaraj Alegaon, Indurkar Ketan Milind, Kshitij Rawat

Alternative Credit Rating: Access to finance & banking facilities remains limited for the unbanked population & businesses in remote areas. A financial/banking app could potentially bridge this gap by crowdsourcing information that can contribute to an alternative credit rating, and subsequently allow other institutions to leverage on it. At the 3rd Asia Finance Forum (link is external), Mohan Jayaraman, the managing director for innovation and strategy of Experian Asia Pacific, points out that lack of data has historically been an obstacle for banks and financial institutions to extend credit to the unbanked, and thus an impediment to achieving financial inclusion. The case highlights are usage of alternate data as another way for lenders to conduct credit scoring and tap opportunities at the bottom of the pyramid.

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18. CS18
Disrupting Blockchain in Sustainable Healthcare Ecosystem

Nimisha, Paridhi Arora, Pooja Kalra, Rishabh Mishra, Nakul Nayan Mehta, Inder Raj Singh, Shweta Mishra

Over the previous decade, blockchain technology has grown in popularity among academics and practitioners in various fields, including banking, insurance, trade, and medical. Blockchain gives the superpower to the distributed network by storing

in the immutable, hash-protected, uninterrupted list of data for the healthcare industry. Blockchain can change standard operations with novel service delivery and ownership transfer owing to its promised ability to increase information flow, sharing, and transmission across participating nodes (i.e., partners in the real system). The case study explores the importance and usage of Blockchain in data management and information exchange.

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19. CS19
Blockchain-enabled Electronic Healthcare System

Ratnakar Rajasi Ajit, Sachin Kumar Yadav, Shiny Bhattacharjee, Shivangi Sharma, Tanmay Siddharth, Sandeep Saini, Tuhin Kanti Deb

This case examines the issues that the healthcare business faces as a result of a lack of technology innovation, such as slow access to medical data, poor system interoperability, patient age, and quantity for medical research. As a result, we developed a technology solution based on blockchain and machine learning. Because it can be used to securely store health records and maintain an immutable version of the truth, the healthcare sector might become a blockchain application domain. A decentralized platform for enabling safe, clear, and quick transactions and usage of medical records for many reasons, was the foundation for blockchain technology. To enable secure access to such sensitive data, blockchain assures that any organization or individual can only access data that they have permission to view. Machine learning, in addition to blockchain technology, can be utilized in the healthcare industry to comprehend and analyze trends and derive insights from data. Machine learning can be used to assess the provided data and build new boundaries by applying various machine learning algorithms on such real-time medical data, as blockchain can be used to deliver encrypted and authorized data.

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20. CS20
Development of Agriculture Sector in India

Sugandha Aggarwal, Sukriti Priya, Saahil Rehani, Adarsh Keshari, Satyam Jha, Akash Rana, Singh Vartika Krishnamurar

This case highlights the analysis of various mentioned topics like affordable technological solution for the sustainable growth of agricultural industry. Increasing weather fluctuations causing the low-quality crop yield. Older farming techniques with no technological support or forecasting benefits

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21. CS21
Various Economical Aspects of Agriculture Sector

Sriya Mitra, Vibhuti Vaibhav Shanker, Aadesh Gaikwad, Siddhant Padave, Tanika Sharma, Vaishnavi Bajpai, Pratyushaw Prata

Over the years, pesticides in agriculture have significantly increased from 5000 metric tons in 1985 to 102,240 metric tons in 1996 97 in India. In India, insecticide accounts for 76% of pesticides compared to 44% globally. This also takes us to its disadvantages, which are All these factors make it necessary for us to monitor pesticides and identify highly infected fruits and vegetables using different technologies. Another major problem faced by the agriculture industry is the problem of monitoring the overall process and product, which results in loss of crops and overhead expenses. In our solution, we have used AI, IoT and Blockchain to monitor pesticides and form an efficient and low-cost horticulture system that will help farmers monitor and control irrigation, soil temperature, moisture level and land registration etc. Its primary objective will be to provide early fault detection. If we talk about the technologies used, then the CAGR (Compound Annual Growth Rate) of AI in the Agriculture industry during 2017 21 is about 22.68% which shows that AI has efficiently solved agricultural problems. Also, 75 million agricultural IoT devices were deployed by the end of 2020. Blockchain has comparatively been absent but can enhance the system's security and enable traceability and storage of the information.

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22. CS22
Solutions for Sustainable Growth in Dairy

Vagmita Chaudhary, Zainab Khan, Abhishek Maitra, Akshay Pawar, Biswajit Das, Jagrati Vijay, Jash Minesh Shah

India was one of the largest consumers and producers of dairy products worldwide for a very long. The importance of dairy products is embedded in our culture. The dairy had an important place in the social fabric of India as Indian society was pastoral in ancient times. The Indian dairy industry facilitates socio-economic development and generates basic income and revenue. In India, the milk produced per cattle is significantly lower than in other global markets. Almost all dairy products in India are consumed domestically, with the majority being sold as milk. The Government of India implemented policies to revamp and develop the dairy industry. In addition, the dairy industry in India has also seen an increase in private participation over the past few years. The Indian dairy industry is attracting national and international players due to its size and potential. There are also specific challenges that the Indian dairy industry is facing which has been discussed in the case study

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