Big data analytics jntu notes pdf

 Computing is already a necessity after oxygen, water, electricity, gas and phones. The social utility scale has increased due to various service models for cloud computing such as Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS), Infrastructure-as-a-Service (IaaS) and now even Analytics-as-a-Service (AaaS). In this article, we will focus specifically on Big Data. In Layman terms, big data analysis is a process that includes examining large and varied data sets. Predominantly, it caters to business organizations as it easily leads to the front line - hidden patterns, customer preferences, market trends and unknown correlations that in turn help these corporate giants make informed decisions that result in profits. This technology is increasingly being used in other industries such as - agriculture, health, education and the supply-logistics chain to name a few. Magical things that developing economies can do, there is a lack of adequate infrastructure and

a shortage of inclusive data maintenance techniques covering even the most remote regions and rural areas. Big Data can help us reach even those not so easily accessible sites and collect data that can then be added to a country's collected data set. All this is possible because of the Internet of Things. To simplify, interrelated devices such as computing and digital machines, objects, people and animals are granted unique identifiers, along with the ability to automatically transfer data over a network. This eliminates the need for human clerical work to feed in numbers. We are not talking about the distant future or the technology used in developed nations, but about our own country where many startups are already working in this domain. A startup makes use of Internet of Things (IoT), Cloud computing, Big Data analytics and mobility, to perfect the established parameters of the agricultural supply chain - milk production, as well as acquisition, cold storage chain and animal insurance. Another data-driven energy efficiency start-up in India is using advanced machine learning to ensure significant energy savings for its consumers. They use machine learning-based models that guarantee governance, risk mitigation, quality service, automated and intelligent controls to enable retail and save up to 30 percent on energy bills. In the healthcare healthcare sector it has harnessed the potential of big data analytics and has begun to use this technique to help prevent epidemics (keeping a record of symptoms, donated medicines, medical reports of a larger group of people), curing diseases, and also reducing costs as each organization organization do not have to update and maintain individual databases. Big data can also highlight the gap between the requirement and the supply of medical facilities in regions through statistics. This method of breaking paths helps to collect data and turn them into critical ideas with which they can be used as a reference for future generations, as it is also a way of documenting medical history. In supposedly third-world countries, Big data can also help collect data and combine various digital resources without personal biases and prejudices, reducing mistakes made by humans, as well as encouraging data journalism, which, consequently, will break the back of corruption and fake news. Consequently, curb the threat of gibberish irrelevant floating in media and social circles. Finally, we could have a solution to the larger problem that erupted at the end of the 20th century - Too much, unreliable information circulating to confuse and manipulate humanity. Efficient collection of accurate data will highlight what the public wants and will also minimize the time taken in decision-making. Slower decision-making and policy implementation is often a complaint to people who reside in democracies, especially in a diverse country like India. Governing bodies can collect a wealth of information, such as demographic internet trends, applications, social networks, as well as other digital platforms that can be used even more in their policy making process. With in-depth information at its disposal, the government can bring about changes to boost the economy more quickly. In light of India's attempt with the Aadhar card and the constant potential threat of leaking the citizen's personal information to malicious groups; Big data will also create a centralized data system thus improving its security and accessibility greatly. As a result of the reduced risks, it will be easier to implement policies and less politicization and opposition. Agricultural Sector In the agricultural sector, Big data is establishing a cycle of cyber-physical agricultural management. Yes, it's not a sci-fi fantasy, but a large volume of diverse data can be captured for study and analysis that will help the farmer's decision-making process. A startup converts data captured by satellite into high-resolution images that can be used by farmers to monitor crop health; and draw attention to various other needs such as fertilizer, pest management and water. It also warns against a sudden change in operational conditions such as the climate or the spread of crop disease. Another company, Blue River makes use of machine learning and robotics to guide on farm inputs. The date can help with complicated needs such as the choice of business partners, buyers, sellers, etc. And it is also the solution to simple problems on the field. This technology can even help in monitoring soil health. And against the illusion breaking the argument about humans losing jobs in machines - Such analysis and do not reduce human participation rather increases human presence and control in strategic capacity and supervisory roles. The analysis of big data directly helps stakeholders in the agricultural sector, together with the maintenance of a database that has the necessary information about crops, the region's specific farming methods, the base price of crops, the damage control techniques used, issues affecting farmers, which certainly helps to formulate a better orientation to agricultural welfare systems. In education The data of sectorBig are touching many facets of human life, including education. This sector is of vital importance to human beings and their civilization. This technology helps to deepen the behavior of the individual student, which becomes a foundationstone in the creation of a learning environment conducive to all students. In addition, Big data can help in the upward task of overseeing students' actions – how long they require to answer a question, the sources they refer to for exam preparation, questions that are usually skipped, etc. This information can help teachers formulate recovery actions that could reduce the dropout rate in schools and colleges alike. The database can also track and store information about student performance after school or college, in the labor market. This would also guide the next batch of students in choosing the right course and university. While there are so many Big data pros, some researchers believe these algorithms will swallow jobs and unemployment rates would reach their pinnacle. It is true that they efficiently obtain a large volume of data in less time than a human employee, but we still need a qualified human brain to link statistics to other factors and form conclusive figures that can actually help rather than the raw data shared by the algorithm. Like all other technological advances it is to make the work of the human being more comfortable and life is very easy. We will continue to use data to drive decisions and make the most effective use of our resources. Advances in the entire data life cycle –from collection to storage to access to analysis- will allow us to better implement data and implement statistics. Improved data and analysis provides a repeatable process for selecting and assigning jobs. As we strive to operate more efficiently, provide superior service to taxpayers and their representatives and ensure the successful implementation of changes in tax laws, we are embracing and integrating data into our culture. Through analytics, we can continuously improve all facets of our operations —the service to the taxpayer, the execution and a series of internal operations— maximizing our learning from tests and data. We are committed to using this research to guide our organizational priorities. Advances in data collection, storage, data analysis will allow us to better deploy data. We will standardize our data processes and protocols and promote among all IRS business units. Increased interoperability of systems and data sources will improve the safe flow and without data problems to allow greater authorized access to information. We will invest in training to develop more advanced analytical skills through the IRS and use data to improve our business processes. Define and communicate data access processes, clarifying where and how authorized users can retrieve and use the data. Standardize data management to provide integrated and usable data. Identify an operational model and appropriate functions to manage, collect and be responsible for the accuracy of the data through the agency. Invest in analysis and visualization software and tools, and develop processes to support analysis in IRS operations. Develop additional analytical workouts. Create learning and interest communities related to data analysis. Design simple and repeatable processes to generate necessary ideas and automate whenever possible. Increase collaboration between information technologies, research, applied analytics and statistics and other business units to bring a multidisciplinary approach to data analysis. Progress towards data strategy – Meeting of key milestones related to the creation of a data strategy, including: Establishment of a governing council, made up of stakeholders through the agency, which provides a company-wide mechanism for tracking data management and developing principles and practices for effective data governance and establishing and updating a complete catalogue of data sources. The IRS must make the most of technology to improve decision-making. New technologies continue to improve the way private and public sector organizations offer their mission, products and services. Government executives believe digital technologies are critical to improving financial services such as revenue collection, audits, treasury management and claims management. The IRS must respond to other changes (e.g. process robotics, blockchain and artificial intelligence) and integrate technologies that allow more efficient mission delivery. For example, the IRS has applied data and analytics to define identity theft detection models, filters, and sets of business rules designed to detect refund fraud and non-compliance. By continuously monitoring their performance, the IRS has ensured a cycle of improvement in the detection and prevention of identity theft. Back to the Strategic Plan of the Higher IRS, Fiscal Year 2018-2022 Download Strategic Plan PAGE PDF Last revision or update: 23-Sep-2020 23-Sep-2020