

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DIGIFLASH PROUDLY PRESENTS

DIGITIMES

2021 - 2022 ISSUE 2



VISION OF THE DEPARTMENT

To develop engineers with global employability, entrepreneurship capability, research focus and social responsibility.

MISSION OF THE DEPARTMENT

- To develop internationally competent engineers in dynamic IT field by providing state-of-art academic environment and industry driven curriculum.
- To motivate and guide students to take up higher studies and establish entrepreneurial ventures.
- To enrich the department through committed and technically sound faculty team with research focus in thrust areas.
- To undertake societal problems and provide solutions through technical innovations and projects in association with the industry, society and professional bodies.



Programme Educational Objectives (PEOs)

PEO 1: Domain Expertise - Possess expertise and emerge as key players in IT integrated domains.

PEO 2: Computing Skills and Ethics - Employ computing skills to solve societal and environmental issues in an ethical manner.

PEO 3: Lifelong Learning and Research - Involve in lifelong learning and research to meet the demands of global technology.

Programme Outcomes (POs)

PO1.Engineering Knowledge : Apply the knowledge of mathematics, science, engineering fundamentals and concepts of Computer Science to solve complex engineering problems.

PO2.Problem Analysis : Identify, review literature, formulate and analyse complex engineering problems using first principles of mathematics and engineering sciences.

PO3.Design and Development of Solutions : Design and develop computing solutions for complex engineering problems with societal and environmental awareness.

PO4.Complex problem Investigation : Investigate complex problems by employing research methods to arrive at valid conclusions.

PO5.Modern Tool Usage : Evaluate and use appropriate tools and techniques in engineering activities .

PO6.Societal contribution : Follow professional engineering practice by applying contextual knowledge to assess societal and legal issues.

PO7.Environment and Sustainability : Understand and provide professional engineering solutions taking into consideration environmental and economic sustainability.

PO8.Ethics : Follow ethical principles and norms in engineering practice.

PO9.Individual and Team work : Function effectively as an individual, team member or leader in diversified environments.

PO10.Communication : Communicate effectively through various modes for all engineering activities.

PO11.Project Management and Finance : Apply Engineering knowledge and management principles for effective project management in multi-disciplinary environments.

PO12.Life-long Learning : Engage in independent life-long learning and skill development for professional and social well being.



Programme Specific Outcomes (PSOs)

PSO1. Systems Engineering: Employ software engineering principles in the design and development of efficient systems.

PSO2. Knowledge Engineering: Apply data analytics techniques for solving real world problems.

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FLUTTER

Raviprasath S
20BCS067

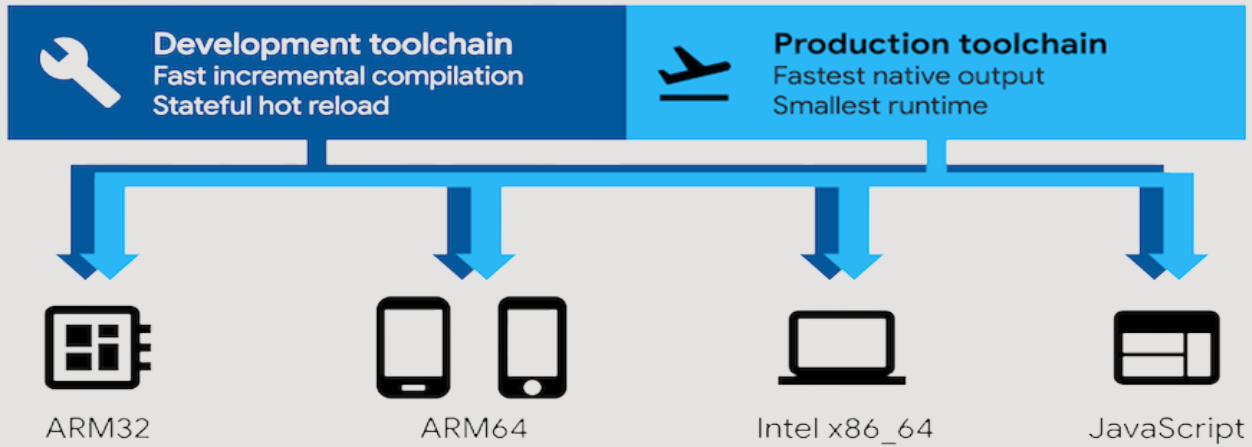


Flutter is Google's SDK for crafting beautiful, fast user experiences for mobile, web, and desktop from a single codebase. Flutter works with existing code. It is used by developers and organizations around the world, and is free and open source. Flutter is multi-platform and it help us to create android and iOS app with single code, Before flutter we had to use different platforms to create apps for android and iOS. Flutter uses the Google- developed Dart language. If you have used Java before, you will be familiar with the syntax of Dart as they are quite similar. Besides the syntax, Dart is a fairly different language. This is something you will most likely be using throughout all of your Flutter applications if you are doing IO or other time-consuming operations such as querying a database. Without asynchronous operations, any time-consuming operations will cause the program to freeze up until they complete. To prevent this, Dart provides us with a sync and await keywords which allow our program to continue execution while waiting for these longer operations to complete.

Write Once, Run on Android and iOS Developing mobile apps can take a lot of time considering you need to use a different codebase for Android and iOS. That is unless you use an SDK like Flutter, where you have a single codebase that allows you to build your app for both operating systems. Not only that, but you can run them completely natively. This means things such as scrolling and navigation, to name a few, act just like they should for the OS being used.

Fast results:

Flutter is fast. It's powered by the same hardware-accelerated 2D graphics library that underpins Chrome and Android: Skia flutter has been architected to support glitch-free, jankfree graphics at the native speed of your device. Flutter code is powered by the worldclass Dart platform, which enables compilation to 32-bit and 64-bit ARM machine code for iOS and Android, as well as JavaScript for the web and Intel x64 for desktop devices.



Do You Know...?

Flutter decreases the time required to deliver an application. When compared to native app development, Flutter significantly saves time to market. ..



BITCOINS

Vasanth T S
19BCS024



Can money be imaginary? Well the answer is BITCOINS. BITCOINS are the virtual currency which can be used for day to day transactions over the internet and as a substitute for physical currency. It was invented by Satoshi Natamoko in 2008. However it remains a mystery who Satoshi Natamoko really is, talking about BITCOINS, it is best described as the first decentralized virtual currency. As it is a currency growing over the internet no government or IMF has the power to control or shun it. As long as the user mines BITCOINS the currency grows.

How does it work?

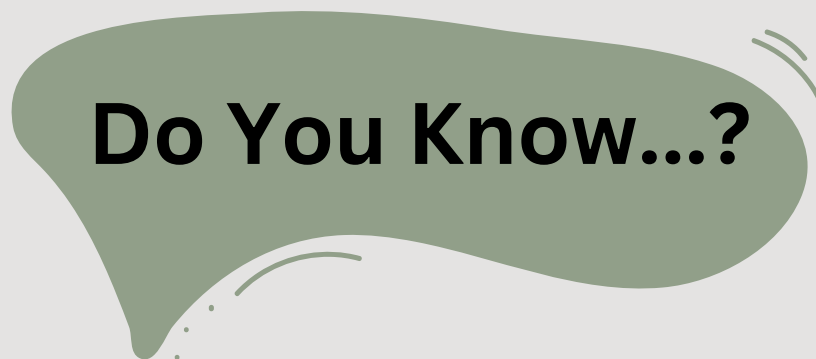
BITCOINS use block chains to store the transactions. The storage consists of sender, date, participants and amount of every transaction. Each node (connection point) owns a full copy of the block chain. Each transaction is verified by BITCOINS miners on the basis of complex mathematical algorithms. The mathematical algorithms also make sure that each node agrees with the current state of the ledger and transactions in it, if anyone tries to corrupt the transactions, nodes will refuse to incorporate the transactions in the block chain.

How to initiate transaction?

The transaction gets commenced with the help of keys; the public and private key. Basically when you send BITCOINS to your friend every node which receives the message will update their copy of the ledger and then pass along the transaction message but the authenticity of message is checked with digital signature i.e, a password and the private key is used to create the signature. You can look on it as the private key being the true password and signature that proves that you have a password. Public keys are address, compare it to email address i.e, it is to be shared by the sender or receiver. For public and private keys you need to have a wallet. Just like a wallet for physical currency, wallet can hold your public and private keys, transactions, BITCOIN etc. Talking about wallets you get a variety of them. Cold wallets refers to offline wallet and is more secure as compared to hot (on line) wallets. There are also physical wallets called as paper wallets you can store these wallets in a safety deposit box along with other valuables.

What is Bitcoin Mining?

This is the most important part of BITCOINS. Just like gold mining you can mine BITCOINS obviously not by pickaxe. The miner needs to solve a complex math problem to discover a block for which he has made a BITCOINS. BITCOINS mining is like a colossal lottery where you compete with your mining, hardware with tons of people on the net. The faster the hardware, the faster the number of tries per second and more the chances of winning. In the big picture, it protects the neutrality of network by preventing any individual from gaining power to block certain transaction i.e. Mining make BITCOINS network secure as well as generating bitcoins. Bitcoins mining hardware uses Hashcash proof of work function. Proof of work is a method to ensure that information is difficult to be made. The proof of work is also designed to depend on previous blocks to force a chronological order in block chain. This makes it exponentially difficult to reverse previous transactions because it will require recalculating proof of works of all blocks. Secondly, for new transactions miners need to include a block with mathematical proof of work, such proofs are hard to generate and depend upon hardware speed for calculations. Also, each block needs to be discovered in ten minutes, making it quite a difficult task.



A pizza purchase was the first commercial Bitcoin transaction
On May 22, 2010, Laszlo Hanyecz paid 10,000 BTC for two Papa John's pizzas -- worth about \$41 at the time. This was the first commercial Bitcoin transaction and is now commemorated through Bitcoin Pizza day each year. At today's prices, that 10,000 BTC would be worth over \$500 million -- which is perhaps the real reason the story has become part of Bitcoin folklore.



THE WORLD OF 5G

Logesh Krishna R
20BCS063



It is interesting to know what our life would be like without the Internet, right? Although we can't even imagine it, that time existed. These were ancient times, when everything was rural. Kind of like the '90s, sort of. At that time there were already such machines, certainly created by some demon, called computers. But, although it may seem crazy, they were all disconnected from each other, as if they were living in isolation, and they were only used for nondescript tasks, such as writing texts or working. Thankfully, a few years later everything changed. The internet came into our lives, cities grew, water irrigation watered our fields and the world was filled with light and colour. But still the internet use can be made more efficient. Let us discuss here about the fastest 5G network. Fifth- generation wireless (5G) is the latest iteration of cellular technology, engineered to greatly increase the speed and responsiveness of wireless networks With 5G, data transmitted over wireless broadband connections can travel at multigigabit speeds, with potential peak speeds as

high as 20 gigabits per second (Gbps) by some estimates. These speeds exceed wireline network speeds and offer latency of below 5 milliseconds (ms) or lower, which is useful for applications that require real-time feedback. 5G will enable a sharp increase in the amount of data transmitted over wireless systems due to more available bandwidth and advanced antenna technology. 5G networks and services will be deployed in stages over the next several years to accommodate the increasing reliance on mobile and internet-enabled devices. Overall, 5G is expected to generate a variety of new applications, uses and business cases as the technology is rolled out. 5G download speeds can currently reach upwards of 1,000 megabits per second (Mbps) or even up to 2.1 Gbps. To visualize this, a user could start a YouTube video in 1080p quality on a 5G device without it buffering. Downloading an app or an episode of a Netflix show, which may currently take up to a few minutes, can be completed in just a few seconds.

EDGE COMPUTING

Sahithya S 20BCS077



We are all aware of Cloud computing and cloud storage. Is anyone aware of “Edge computing”? Let us discuss about Edge computing and its need. Edge computing is a distributed architecture in which the client data is processed at the periphery of the network, as close to the originating source as possible.

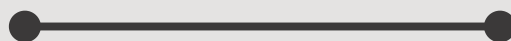
Data is the lifeline of modern business, providing valuable business insight and supporting real-time control over critical business processes and operations. Today’s businesses are awash in an ocean of data, and huge amounts of data can be routinely collected from sensors and IoT devices operating in real time from remote locations and inhospitable operating environments almost anywhere in the world. But this virtual flood of data is also changing the way businesses handle computing. The traditional computing paradigm built on a centralized data center and everyday internet isn’t well suited for moving endlessly growing rivers of real-world data.

Bandwidth limitations, latency issues and unpredictable network disruptions can all conspire to impair such efforts. Businesses are responding to these data challenges.

Clearly edge computing moves some portion of storage and compute resources out of the central data center and closer to the source of the data itself. Rather than transmitting raw data to a central data center for processing and analysis, that work is instead performed where the data is actually generated – whether that’s a retail store, a factory floor, a sprawling utility or across a smart city. Only the result of that computing work at the edge, such as real-time business insights, equipment maintenance predictions or other actionable answers, is sent back to the main data center for the review and other human interactions. Thus, edge computing plays a major role in IT field and it reshapes the IT and business computing.

Do You Know...?

Edge computing has become a big market and continues to grow at a great speed – the forecast global revenue is set to reach 250.6 billion U.S. dollars by 2024.



VR IN ENTERTAINMENT

Ashwin Karthik S
21BCS312



Museums and galleries around the world now offer virtual tours to increase engagement with visitors. These tours, designed to bring art and culture to life, vary in complexity from simple 360-degree walkthroughs to highly immersive experiences. The National Gallery in London and the Vatican Museum in Rome both have VR tours that let visitors get close to exhibits and learn the history and stories behind them without dealing with travel or crowds. The Virtual Online Museum of Art (VOMA), which launched in 2020, is the world's first completely virtual museum. VOMA presents curated exhibitions with art loaned from around the world. Virtual zoo experiences like Zoo World from Intentio Education Game Studios gets users up close and personal with animals as they go on a series of environmental themed quests around the world. VR technology can also be integrated into physical visitor attractions like traditional theme parks.

Roller coasters, drop towers, and water slides become even more stomach dropping when users are wearing headsets that enhance

the ride experience with elements of VR 66% of respondents were willing to visit the VR theaters. The combination of theater and virtual reality can create a successful business model. The theatrical VR content supposes clear ways of monetization and can bring stable income for several years, unlike the VR movies, which become irrelevant very quickly due to the low involvement of viewers to the action. New genres of VR games replicate traditional game genres. Therefore, innovative VR games, in particular using specific properties of virtual reality, such as haptic feedback or recognition of smells and flavours, can make a real breakthrough in the industry. The market of virtual reality games for kids is also poorly developed. For a pleasant game experience, a child needs a special small sized virtual reality headset for kids. The development of virtual reality games for kids is no more difficult than developing games for adults. However, the competition in this market is still low, which gives certain competitive advantages.

IOT APPLICATIONS

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19BCS023



Smart Home

Smart Home clearly stands out, ranking as highest Internet of Things application on all measured channels. More than 60,000 people currently search for the term “Smart Home” each month. This is not a surprise. The IoT Analytics company database for Smart Home includes 256 companies and start-ups. More companies are active in smart home than any other application in the field of IoT. The total amount of funding for Smart Home start-ups currently exceeds \$2.5bn. This list includes prominent start up names such as Nest or Alert Me as well as a number of multinational corporations like Philips, Haier, or Belkin.

Smart City

Smart city spans a wide variety of use cases, from traffic management to water distribution, to waste management, urban security and environmental monitoring. Its popularity is fuelled by the fact that many Smart City solutions promise to alleviate real pains of people living in cities these days. IoT solutions in the area of Smart City solve traffic congestion problems, reduce noise and pollution and help make cities safer.

Smart Grids

Smart grids are a special one. A future smart grid promises to use information about the behaviour of electricity suppliers and consumers in an automated fashion to improve the efficiency, reliability, and economics of electricity. 41,000 monthly Google searches highlight the concept’s popularity. However, the lack of tweets (Just 100 per month) shows that people don’t have much to say about it.

Industrial Internet

The industrial internet is also one of the special Internet of Things applications. While many market researches such as Gartner or Cisco see the industrial internet as the IoT concept with the highest overall potential, its popularity currently doesn’t reach the masses like smart home or wearables do. The industrial internet however has a lot going for it. The industrial internet gets the biggest push of people on Twitter (~1,700 tweets per month) compared to other non-consumer oriented IoT concept.

BIG DATA HADOOP

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19BCS097



Hadoop is an opensource software framework for storing data and running applications on clusters of commodity hardware. It provides massive storage for any kind of data, enormous processing power and the ability to handle virtually limitless concurrent tasks or jobs. As the World Wide Web grew in the late 1900s and early 2000s, search engines and indexes were created to help locate relevant information. In the early years, search results were returned by humans. But as the web grew from dozens to millions of pages, automation was needed. Web crawlers were created, many as universityled research projects, and search engine start-ups took off (Yahoo, AltaVista, etc.). One such project was an opensource web search engine called Nutch – the brainchild of Doug Cutting and Mike Cafarella. They wanted to return web search results faster by distributing data and calculations across different computers so multiple tasks could be accomplished simultaneously. During this time, another search engine project called Google was in progress.

It was based on the same concept – storing and processing data in a distributed, automated way so that relevant web search results could be returned faster. In 2006, Cutting joined Yahoo and took with him the Nutch project as well as ideas based on Google’s early work with automating distributed data storage and processing. The Nutch project was divided – the web crawler portion remained as Nutch and the distributed computing and processing portion became Hadoop (named after Cutting’s son’s toy elephant). In 2008, Yahoo released Hadoop as an opensource project. Today, Hadoop’s framework and ecosystem of technologies are managed and maintained by the non-profit Apache Software Foundation (ASF), a global community of software developers and contributors.

Why is Hadoop important?

Ability to store and process huge amounts of any kind of data, quickly. With data volumes and varieties constantly increasing, especially from social media and the Internet of Things (IoT), that's a key consideration.

Computing power:

- Hadoop's distributed computing model Processes big data fast.
- The more computing nodes you use, the more processing power you have.

Fault tolerance:

Data and application processing are protected against hardware failure. If a node goes down, jobs are automatically redirected to other nodes to make sure the distributed computing does not fail. Multiple copies of all data are stored automatically.

Flexibility:

Unlike traditional relational databases, you don't have to pre-process data before storing it. You can store as much data as you want and decide how to use it later. That includes unstructured data like text, images and videos.

Low cost:

The open-source framework is free and uses commodity hardware to store large quantities of data. At the core of the IoT is streaming, always on torrent of data. Hadoop is often used as the data store for millions or billions of transactions. Massive storage and processing capabilities also allow you to use Hadoop as a sandbox for discovery and definition of patterns to be monitored for prescriptive instruction. You can then continuously improve these instructions, because Hadoop is constantly being updated with new data that doesn't match previously defined patterns.

Scalability:

You can easily grow your system to handle more data simply by adding nodes. Little administration is required.

How is Hadoop being used?

Going beyond its original goal of searching millions (or billions) of web pages and returning relevant results, many organizations are looking to Hadoop as their next big data platform. Popular uses today include: Low-cost storage and data archive The modest cost of commodity hardware makes Hadoop useful for storing and combining data such as transactional, social media, sensor, machine, scientific, click streams, etc. The low-cost storage lets you keep information that is not deemed currently critical but that you might want to analyze later.

Sandbox for discovery and analysis

Because Hadoop was designed to deal with volumes of data in a variety of shapes and forms, it can run analytical algorithms. Big data analytics on Hadoop can help your organization operate more efficiently, uncover new opportunities and derive next-level competitive advantage. The sandbox approach provides an opportunity to innovate with minimal investment.

IoT and Hadoop

Things in the IoT need to know what to communicate and when to act.



Augmented Reality



Reemaa Sajad Hyder
19BCS008

The use of augmented reality (AR) in education is an important topic of research. AR enables the addition of virtual objects into real environments to facilitate realtime interaction. The use of AR may increase student learning motivation and contribute to improved academic achievement. There is insufficient research on the impact of using mobile AR in education, and there is room to explore the potential of AR to improve student learning motivation and contribute to improved academic achievement. AR combines real and virtual worlds, supplementing the real world with computer-generated virtual objects in real-time. According to one of the most commonly accepted definitions, AR is said to be a technology that has three key requirements: combining of real and virtual objects in a real environment, aligning of real and virtual objects with each other, and real-time interaction.

What is the need of involving AR in education?

AR provides new ways of interacting with the real world and can create experiences that would not be possible in either a completely real or virtual world. AR has the unique ability to create immersive hybrid learning environments that combine real and virtual objects. AR technologies enable users to experience scientific phenomena that are not possible in the real world, such as certain chemical reactions, making inaccessible subject matter available to students. The manipulation of virtual objects and observation of phenomena that is difficult to observe in the real world can be facilitated through AR. This type of learning experience can encourage thinking skills and increase conceptual understanding of phenomena that are either invisible or difficult to observe as well as correct any misconceptions AR addresses learning difficulties that are often encountered with visualizing unobservable phenomena.

The skills and knowledge that students develop through technology-enhanced learning environments may be developed more effectively through AR technology. The cognitive workload may be reduced by integrating multiple sources of information. The immersion and interaction features offered by AR may encourage students to engage in learning activities and may improve student motivation to learn. AR provides highly interactive experiences and can generate authentic learner activity, interactivity, and a high level of realism. Interaction with the world is important in the learning process, and, apart from reality, AR is one of the best ways of facilitating this interaction. Having all the above significance, AR also holds some limitations. Some of them are: Cost effectiveness- as we are going to combine reality with virtually it takes too much cost. Hence, It is very expensive to implement and develop AR technology based projects and to maintain it. As we are going to interact with reality, there will be a con of lack of privacy.

Do You Know...?

NASA was an early adopter of Augmented Reality



STUDENT PROJECTS

Smart Safety monitoring System for Sewage Workers

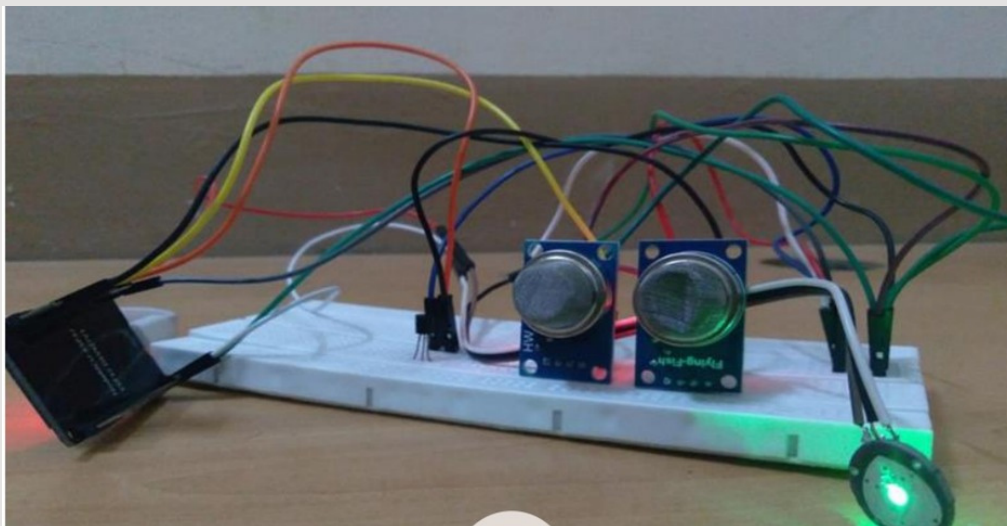
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Prithviraj S 20BCS053

Gokul T 20BCS023

Sewage treatment is an important environmental problem. If the drainage system is not maintained properly, the pure water gets mixed with drainage water and cause infectious disease. It is very important that underground drainage system should work in a proper manner to keep the city clean, safe and healthy. At present, the toxicity of gases in sewage cannot be monitored. The worker who enters the drainage will not be aware of toxic gas release and gets affected.

In recent days many workers are losing their life due to this issue and the death count is increasing day by day. To develop a solution to this problem, a hardware kit is designed to monitor the sewage system. The device will monitor the heartbeat of the worker, the concentration of toxic gases, temperature inside the sewage. The municipal authorities and co-worker can monitor the level of gases and once the level of parameters exceeds a threshold an alert signal will be shown in the website.



Working of Smart Safety monitoring System for Sewage Workers

Heart Disease Prediction Using Machine Learning

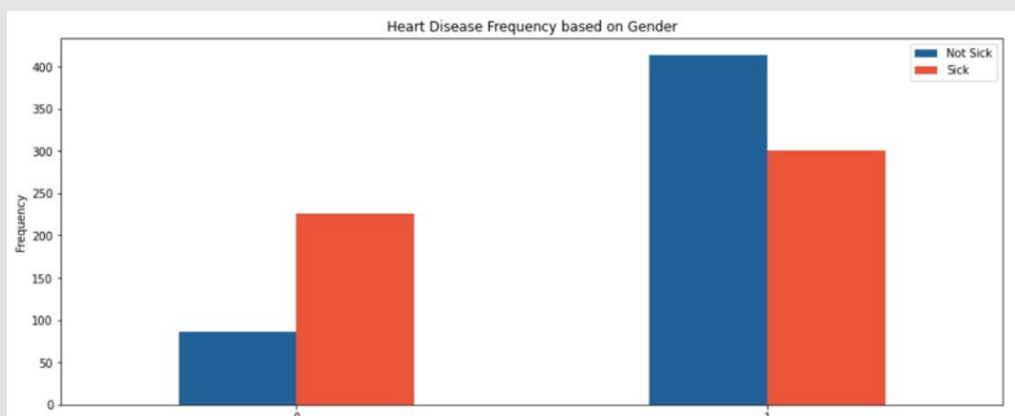
Shangavie G 19BCS089

Nikesh R 19BCS093

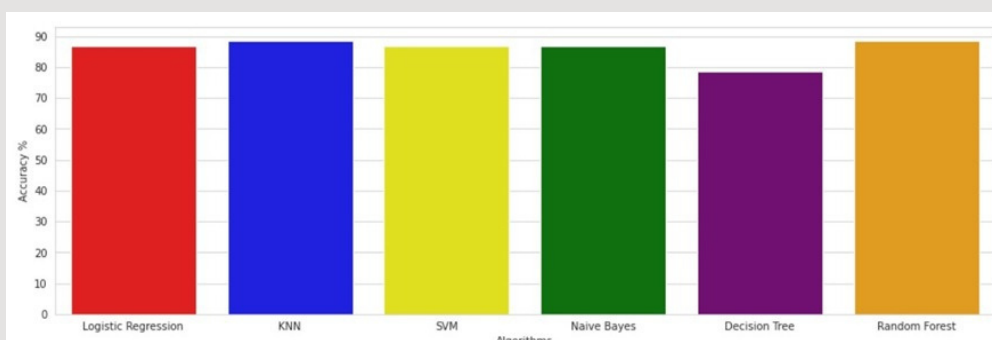
Veeraraghavan V 19BCS107

Machine learning disease prediction is a system that predicts diseases based on information provided by users using various suitable algorithms. In recent times, Heart disease prediction is one of the most complicated tasks in the medical field. In the modern era, approximately one person dies per minute due to heart disease. Data science plays a crucial role in processing huge amounts of data in the field of healthcare. As heart disease prediction is a complex task, there is a need to automate the prediction process to avoid risks associated with it and alert the patient well in advance. In this project, Heart Disease Prediction Using Machine Learning is completely done with the help of Machine Learning algorithms and Python Programming language and using the dataset that is available previously from the hospitals.

This model is developed using classification algorithms, as they play important role in prediction. The proposed work predicts the chances of heart disease and classifies patient risk levels by implementing different machine learning techniques such as Logistic Regression, Random Forest, Support vector machine, Gaussian Naïve Bayes, Gradient boosting, K-nearest neighbours, Multinomial Naive Bayes, and Decision trees. The main objective of this model is to get a better accuracy to detect the heart disease using algorithms in which the target output indicates whether a person has heart disease or not. This in turn will help to provide effective treatment to patients and avoid severe consequences.



Comparison of heart disease frequency based on gender



Comparison of algorithms for heart disease prediction

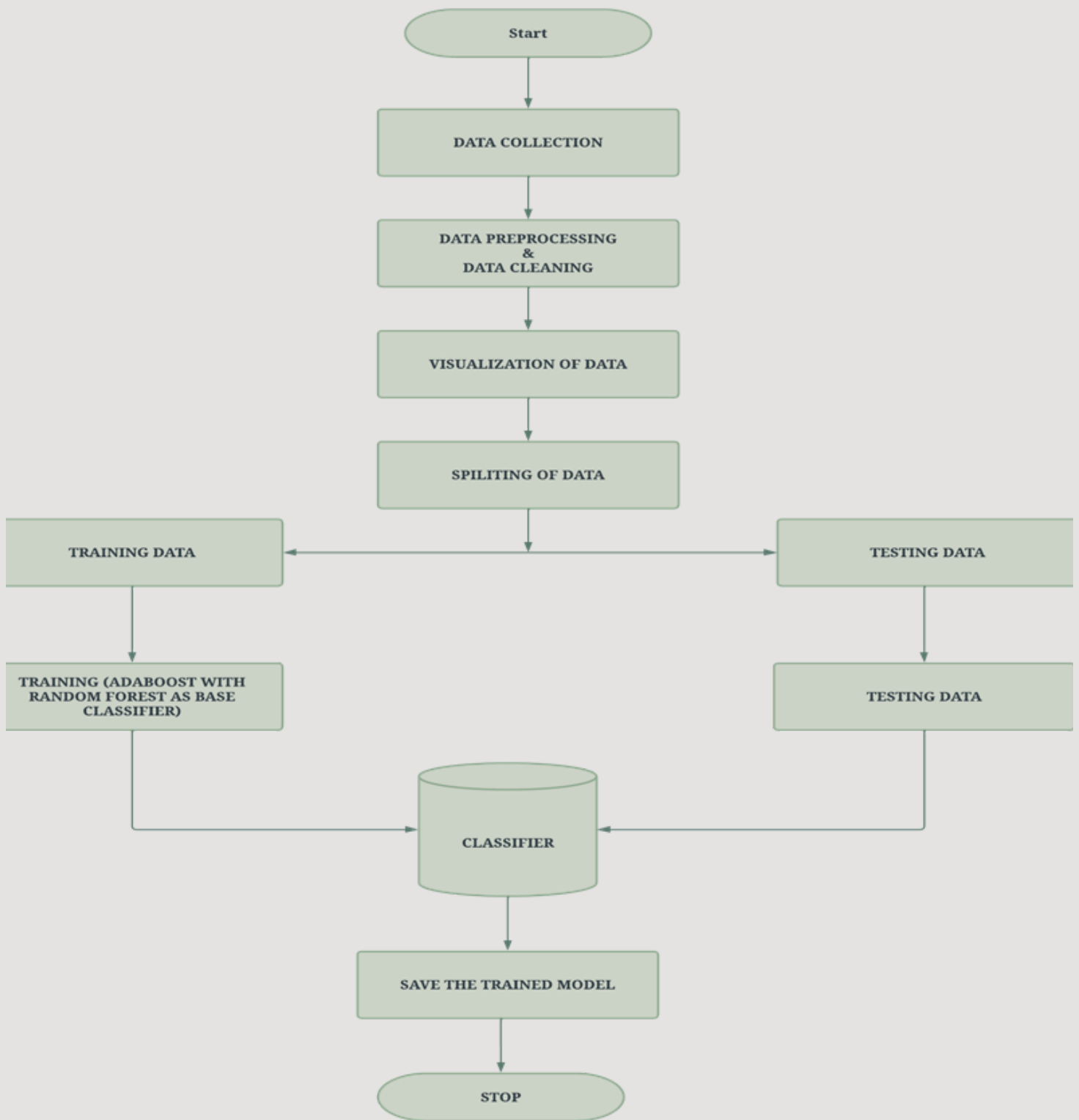
HEART DISEASE PREDICTION USING ADABOOST WITH RANDOM FOREST AS BASE CLASSIFIER

Kamala Lakshmi S 18BCS010

Abinaya M 18BCS012

In most cases, a complicated combination of clinical and pathological evidence is used to make a diagnosis of cardiac disease. Because of this intricacy, clinical practitioners and researchers are interested in developing more efficient and reliable methods for predicting cardiac disease. In this study, we develop a heart disease predict system to help medical practitioners anticipate heart disease status based on patient clinical data. There are three steps to our methods. To begin, we look at age, sex, chest pain type, trestBPS, cholesterol, resting ECG, max heart rate, exercise induced angina, old peak and slope. Second, we create a machine learning algorithm that uses these clinical data to categorise heart disease. The accuracy of prediction is near 93%. Finally, we develop a user friendly heart disease prediction system. This system consists of clinical data input section and prediction performance display section where we can view our results in minimal amount of time. Our approach is very effective in predicting heart disease in a patient. The proposed approach was applied to the dataset in which firstly the dataset was properly analysed and pre-processed by checking for null values in the dataset and drop the features that does not bring any effective change in the results. Then, we spilt the data set into two parts one for training and one for testing.

AdaBoost also called Adaptive Boosting is a technique in Machine Learning used as an Ensemble Method. The most common algorithm used with AdaBoost is decision trees with one level that means Decision trees with only 1 split. These trees are also called Decision Stumps. What this algorithm does is that it builds a model and gives equal weights to all the data points. It then assigns higher weights to points that are wrongly classified. Now all the points which have higher weights are given more importance in the next model. It will keep training models until and unless a lower error is received. At first all these data points will be assigned some weights. Initially, all the weights will be equal. The first 70% part of the dataset is loaded to train the model. The algorithm the system uses to train the model is AdaBoost with base classifier as random forest. As the AdaBoost works well with the decision trees, it boosts the model's accuracy. Once the training of the model is done, the remaining 30 parts of data is used for testing the trained model. Now, the trained model is tested for the prediction. The UI is made with Streamlit framework. It is provided with the fields for entering the heart disease related data for prediction. Once the predict disease button is pressed the loaded pretrained model will start the prediction and the results will be displayed in the screen.



Flowchart of heart disease prediction using adaboost algorithm





RIDDLES

1. Two in a corner, one in a room, zero in a house, but one in a shelter. What am I?
2. What runs, but never walks. Murmurs, but never talks. Has a bed, but never sleeps, and has a mouth, but never eats?
3. I have cities, but no houses. I have mountains, but no trees. I have water, but no fish. What am I?
4. No matter how little or how much you use me, you change me every month. What am I?
5. What occurs once in a minute, twice in a moment, and never in 1,000 years?
6. I have no doors but I have keys, I have no rooms but I do have a space, you can enter but you can never leave, what am I?
7. What is an aliens favourite place on a computer? 8. How do you know when a computer monitor is sad?



Answers

- 1. The letter “R”**
- 2. A River**
- 3. A Map**
- 4. A calendar**
- 5. The letter “M”**
- 6. A Keyboard**
- 7. The Space bar**

<https://github.com/flutter/flutter>

<https://bitcoin.org/en/>

<https://www.kyndryl.com/in/en/services/network?>

<https://new.siemens.com/global/en/products/automation/industrial-communication/industrial-5g.html?>



ABOUT DIGITIMES

DigiFlash is the student association of Computer Science and Engineering Department, MCET, Pollachi. The objective of our association is to innovate, create and sharpen the minds of the students to compete globally. It is a platform to improve the student's knowledge and also create opportunities to interact with leading industry persons. DigiFlash is organizing number of Co-Curricular activities including special lectures by Experts, Workshops, Technical Seminars, Coding Events, Paper & Poster Presentations and Webinars. Digitimes is a part of DigiFlash. A magazine that features the latest Technological advancements in the field of Computing.

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