AJPMHS
GLOBAL RESEARCH NETWORK

AMERICAN Journal of Pediatric Medicine and Health Sciences
Volume 01, Issue 06, 2023 ISSN (E): 2993-2149

Classifying Marine Species Data with Root Cause and Propose a Solution

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Abstract: We have successfully categorised the vast majority of the data on marine species based on specific features in this research. The next step is to identify endangered or threatened species that meet the criteria. Classify the vast majority of the data and provide explanations for and remedies to the classification problems presented here. One is a decision tree algorithm, and the other is a logistic regression approach, both of which are used in our work. Classifying large amounts of data according to need and constraints is a common application of the decision tree technique. In a prospective, methodologically sound approach, the logistic regression algorithm is applied for predetermined root causes and treatment options. This application proposes a strategy for efficiently exploring and analysing large amounts of data in light of specific situations and needs. In order to comprehend classification and segregation and reach a numerical output or regression, we employ decision trees. This technique is a form of supervised learning employed in the process of problem classification. In this method, we identify the most important characteristics and conditions and use them to divide the data into two or more groups. Automated procedures rely on a collection of

algorithms and tools to perform the heavy lifting of data-driven decision making and branching. In order to meet our requirements, the initially unsorted data must be analysed in numerous steps based on various properties and separated in order to reduce the amount of unpredictability, or entropy. It helps in the creation of efficient machine learning models that can make reliable predictions quickly. Discrete values (often binary values like 0/1) are estimated from a set of independent factors using logistic regression. It helps in estimating the possibility of an event by adjusting the logic function to the data. In this context, these algorithms perform admirably. Since there are only two possible results, we call logistic regression a binary classifier.

Keywords: Marine Species, Data, Root Cause, Propose a Solution

Introduction

In order to determine whether the endangered or threatened species are in danger, the project aims to predict whether they are endangered or threatened according to the client's requirements. In order to determine whether the endangered or threatened species are in danger, researchers have to determine if the population is declining and whether this is an actual threat [1]. For example, if the population of a certain species has dropped by 90%, it is most likely a loss [2]. The specific characteristics of this population, such as location and habitat, must be assessed to determine if there is a problem – this could be due to factors like overhunting, habitat destruction (such as farming), disease epidemics, competition with other animals and so on [3]. These similar factors may impact an animal's overall health even though they do not each cause its demise individually [4-5]. It is apparent that the bulk of the data is manipulated, and searching or filtering it by a human would be too hard because it would take a long time for the human to do, and the final output of the report would not be accurate. The reason is that a large amount of data does not have to be handled manually by humans in many cases [6]. In order to resolve this problem, they need to apply a machine learning methodology to resolve it [7-12]. By providing the bulk of the data to the machine, it will process it and produce an accurate output based on the data input. A machine can be defined as a tool capable of mimicking the behaviour of an intelligent subject in a way that mirrors their own [13]. There are several ways to automate complex tasks that can be done by machine learning systems similar to the way humans solve problems in the real world. In the end, after the classification of the results based on the requirements, the report will be generated in PDF format to be used by the client [14-19]. Once completed, the report will be forwarded to the analyst to analyse how these species are endangered or threatened. After the analysis results have been collected, the final report will be generated and sent to the client as soon as possible [20-25].

Purpose of the System

- High accuracy will help the good research results.
- This method can handle unlimited data, assess them and provide a proper analysis for the same.
- Cost and time consuming also low.

Domain Knowledge

Machine learning is a subfield of AI that allows computers to teach themselves new skills and refine their existing ones in the absence of human instruction [26-29]. In the field of machine learning, the

goal is to create algorithms that can access and analyse data on their own. The fundamental goal is to provide the computer the ability to learn on its own, with no help from humans, and to make appropriate adjustments to its behaviour (figure 1) [30].

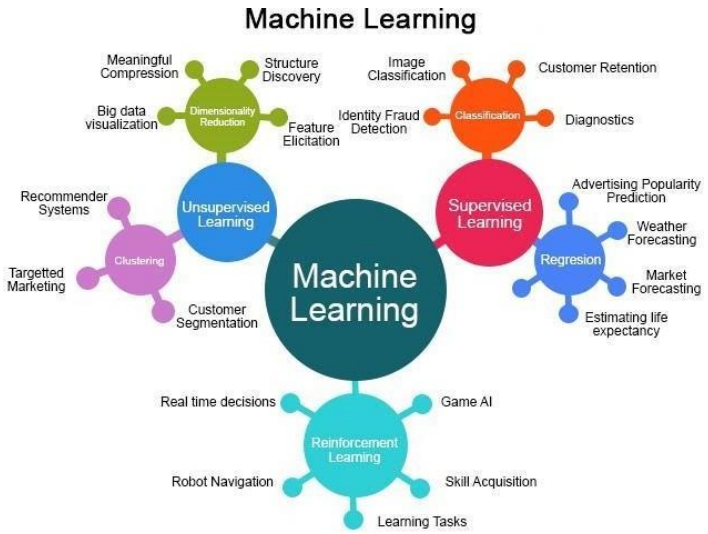

Figure 1: Machine Learning

In order to determine whether the endangered or threatened species are in danger, the project aims to predict whether they are endangered or threatened according to the client's requirements [31]. In order to determine whether the endangered or threatened species are in danger, researchers have to determine if the population is declining and whether this is an actual threat. For example, if the population of a certain species has dropped by 90%, it is most likely a loss [32-35]. The specific characteristics of this population, such as location and habitat, must be assessed to determine if there is a problem – this could be due to factors like overhunting, habitat destruction (such as farming), disease epidemics, competition with other animals and so on [36-41]. These similar factors may impact an animal's overall health even though they do not each cause its demise individually. It is apparent that the bulk of the data is manipulated, and searching or filtering it by a human would be too hard because it would take a long time for the human to do, and the final output of the report would not be accurate [42]. The reason is that a large amount of data does not have to be handled manually by humans in many cases. In order to resolve this problem, they need to apply a machine learning methodology to resolve it. By providing the bulk of the data to the machine, it will process it and produce an accurate output based on the data input [43]. A machine can be defined as a tool capable of mimicking the behaviour of an intelligent subject in a way that mirrors their own. There are several ways to automate complex tasks that can be done by machine learning systems similar to the way humans solve problems in the real world [44-49].

In the end, after the classification of the results based on the requirements, the report will be generated in PDF format to be used by the client [50-55]. Once completed, the report will be forwarded to the analyst to analyse how these species are endangered or threatened [56-61]. After the analysis results have been collected, the final report will be generated and sent to the client as soon as possible.

Table 1: Hardware and Software Requirements

Developing Kit			
	Processor	RAM	Disk Space
Eclipse	Computer with a processor or higher	2.6GHz2GB	Minimum 20 GB
		Database	
MySQL 5.0	Intel Pentium processor at 2.6GHz or faster	Minimum 512 MB Physical Memory; 1 GB Recommended	Minimum 20 GB
HeidiSQL 8.3	Intel Pentium processor at 2.6GHz or faster	Minimum 512 MB Physical Memory; 1 GB Recommended	Minimum 20 GB

The current system makes it extremely challenging to pick out the endangered or threatened items from the mountain of data [62-68]. This information is used by oceanographers. Which one is from a certain time and place in the ocean? Species data collected over a long period of time reveals an abundance of species. When new data is acquired and compared to older data, it becomes very difficult to manipulate species that are in danger of extinction. It's a lengthy process, though. Furthermore, the reliability of the altered data is dubious. The ocean is home to an estimated two million different species. Having to do this by hand is a lot of work. Problems like as inaccuracies, wasted time, inconsistent results, exorbitant training costs, and performance lags are possible [69-71].

We have designed the suggested system so that each user has their own unique login credentials. The company's name makes it easy for customers to upload and retrieve their information. The system is more secure and can quickly manipulate data [72-79]. When it comes to creating predictions or classifying tagged data, machine learning algorithms can be far more accurate than people. Better results and higher earnings are possible as a result of this enhanced precision. The vast majority of species data has been integrated as input, and will be filtered out as endangered species data or threatened species data depending on the requirements. In addition to gathering information on endangered and threatened species, please include an explanation for why these species are in danger of extinction [80-85].

Software Requirement Specification

The features of the web-accessible system are listed below. Access the browser's preferences with this UI-equipped Activity. Add another Activity that, once authorised, grants people access to the shared folder. Correctly manage the activity lifecycle [86-90]. Compiling and running code is required to earn any points in this category. Your app's user interface must facilitate the browsing, purchasing, and selling of stocks based on granular metadata. You will need to design a browsing UI and an integration UI to complete the task. You can build your own location browser using the many tools and components available in the Net Beans' layout system. Like the final project, your programme should be built so that it can only be controlled by the keys and mouse. Your programme needs to support the keyboard, mouse, and search functions [91-94].

Non-Functional Requirements

The system has to be supported by Net Beans. The team player needs to open a System browser. It's important that everyone has their own system [95-98]. Before launching the programme, the system must verify the user's credentials. Unauthorized users are locked out of the system. Access to the system's features should be granted based on the user's role. An approval procedure must be established. Modular customization components that can be used elsewhere in the system's construction are a must. Safe and sound access to private information. Constant accessibility, with improved hardware for top performance. Future additions will benefit greatly from a service-based architecture that can be easily modified [99-101].

Performance Requirements

The performance of an application can be evaluated by observing the results it produces. An integral aspect of any system analysis is the specification of requirements. Designing a system that works in the specified setting is impossible without clear requirements [102-108]. Users of the current system are in the best position to provide necessary requirements, as they are the ones who will be using the system in the end. This is so that the system may be designed in accordance with the requirements, which can only be known at the start. Once the system has been designed, making changes is tough, but developing a system that doesn't meet the needs of the end user is pointless [109-114].

System development environment introduction to Java

Oak was the original name for the language, which was changed to Java in 1995. The fundamental driver for the creation of this language was the requirement for a cross-platform (i.e. Architecture neutral) language to be utilised in the development of software for embedded systems in a wide range of consumer electronic gadgets [115-119].

Java architecture provides a lightweight, stable, and fast platform for programming. To ensure compatibility across platforms, Java compiles Java Virtual Machine byte codes, which are then interpreted by each system's respective run-time environment. Java is an adaptive platform that fetches and executes its code only when it's needed, be it on a local machine or one halfway across the world [120-125].

The Java compiler, when used to compile code, generates byte code, which is machine code for a fictitious machine known as a Java Virtual Machine (JVM). It is the job of the JVM to run the byte code. The JVM was developed to fix the problem of probabilities [126-129]. All machines can access the same code that was created, compiled, and run on a single system. A Java Virtual Machine is what you'd call it (figure 2).

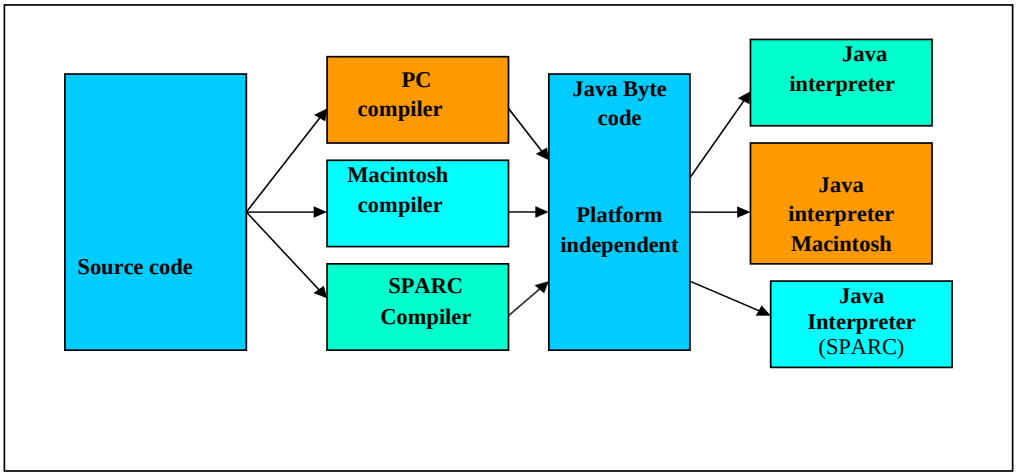

Figure 2: Compiling and interpreting Java source code

At runtime, the Java interpreter simulates a Java Virtual Machine to the byte code file. In reality, it may be anything from an Intel Pentium PC running Windows 95 to a Sun SPARCstation PC operating Solaris or even a Macintosh computer running OS X, as long as it has access to the internet [130].

Servlets/JSP

A Servlet is an extension for servers in general. Dynamically loading Java classes can increase a server's capabilities. Because of their compatibility with web servers, Servlets have largely replaced CGI scripts in that context [131-133].

A Servlet is functionally equivalent to a proprietary server extension; nevertheless, it is secure and portable because it is executed within the server's Java Virtual Machine (JVM). Servlets can only be used on the same server they were created on [134].

Servlets are processed by individual threads within the web server process, as opposed to the many processes required by CGI and Fast CGI. This demonstrates the effectiveness and scalability of servlets [135].

Servlets can be run on a variety of platforms and in a variety of web servers. When it comes to creating applications for the web, Java Servlets are unparalleled [136].

Instead of using CGI scripts, a web server can employ servlets, which can then be used to expand the capabilities of other servers, such as an email server, by doing things like scanning all attachments for viruses or filtering incoming messages [137].

Servlets are software components that adhere to a standard interface and can be integrated with a Java server. Servlets are similar to applets in that they are both byte-coded server-side objects that may be dynamically loaded from the internet. They are distinct from applets in that they are nameless, faceless entities (without graphics or a GUI component). They are platform-independent, pluggable, byte-code objects that can be used to augment server-side functionality on the fly. The following benefits accrue when using servlets to create dynamic content, such as the one achieved by employing an HTTP servlet to generate HTML content dynamically:

They replace CGI scripts and are quicker and cleaner. They adhere to a common Application Programming Interface (the servlet API). They offer every benefit that Java has to offer (run on various servers without needing to be rewritten).

The Servlet API has some benefits: The Servlet API's support for several protocols is a major benefit. It makes no presumptions concerning

- The protocol is used to transmit on the net
- How it is loaded
- The server environment it will be running in

These quantities are important because they allow the Servlet API to be embedded in many different servers.
Features of Servlets:

- Servlets are persistent. Servlet is loaded only by the web server and can maintain services between requests.
- Servlets are fast. Since servlets only need to be l\loaded once, they offer much better performance than their CGI counterparts.
- Servlets are platform-independent.
- Servlets are extensible Java is a robust, object-oriented programming language which can easily be extended to suit your needs.
- Servlets are secure
- Servlets are used with a variety of clients.

A DBMS that stores data in tables. It is possible to develop a single programme that connects to a database using the Java Database Connectivity API (JDBC). JDBC is a Java API for executing structured query language (SQL) statements. Java classes and interfaces make up the entirety of this. Database applications can now be written entirely in Java thanks to JDBC, which provides a common API for tool/database developers.
JDBC makes it simple to deliver SQL statements to the right database from nearly any programme. Programmers may "write it once, run it anywhere" with Java and JDBC.
Simply put, JDBC makes it possible to do three things.

- Establish a connection with a database
- Send SQL statements
- Process the results
- JDBC Driver Types
- The JDBC drivers that we know now fit into one of four categories.
- JDBC-ODBC Bridge plus ODBC driver
- Native-API party-Java driver
- JDBC-Net pure Java driver

Each database system requires its own unique JDBC driver that conforms to the java.sql.Driver interface in order to be accessed. Nearly every popular RDBMS has a corresponding driver, albeit only a small fraction of these are freely distributable. For free, Sun includes a JDBC-ODBC bridge driver in the JDK so that you can connect to common ODBC data sources like a Microsoft Access database, though Sun strongly discourages utilising the driver outside of development environments. Many different kinds and flavours of JDBC drivers exist for a wide variety of database management

systems.

Linking JDBC and ODBC: Instead of the Bridge and the ODBC driver, it is preferable to utilise a Pure Java JDBC driver. Because of this, ODBC client configuration is unnecessary. It also removes the risk of the Bridge introducing a bug into the native code, which could cause the Java VM to malfunction (that is, the Bridge native library, the ODBC driver manager library, the library, the ODBC driver library, and the database client library).

The JDBC-ODBC Bridge is a JDBC driver that translates JDBC activities into ODBC operations in order to make them operational. It looks like any other application in ODBC's eyes. The Bridge is a Java package called sun. JDBC. odbc that provides access to an ODBC-compatible native library. Intersolv and Java Soft collaborated to create the Bridge. HTML Web pages can be created with the help of Hypertext Markup Language (HTML), one of the WWW's defining languages. HTML enables users to add text, images, and connections to other web sites in their creations (Hyperlinks).

While it may seem like a programming language, HTML is actually only an implementation of ISO Standard 8879, SGML (Standard Generalized Markup Language), with a focus on hypertext and some modifications to make it more suitable for the World Wide Web. Hypertext operates on the principle of linking many resources together. Based on our specific needs and interests, we can easily find the data we're looking for. Markup languages are nothing more than lists of items surrounded by the elements that should be rendered. Some parts of this paper, or other publications, can be accessed by hypertext links, which are the highlighted or underlined text.

The host computer, which may be located in another country, can display any content using HTML. This flexible language can be used on any device or operating system.

To improve the document's visual appeal, HTML offers tags (special codes).

Case does not matter while using HTML. In order to make the document more presentable, you can use things like graphics, fonts, sizes, colours, etc. The document itself includes everything that is not a tag.

What Is Java Script? When it comes to creating server and client side web applications, JavaScript is a concise, object-based scripting language. JavaScript statements inserted directly in an HTML page are understood by Netscape Navigator 2.0. And using Livewire, you can build CGI-like server-based apps.

JavaScript statements on an HTML Page in a Navigator client application can detect and react to events like mouse clicks and page scrolling. If you have a form that asks for a phone number or postal code, for instance, you may develop a JavaScript function to ensure that the user entered a legitimate number. An Html page with embedded Java Script can interpret the entered text and alert the user with a message dialogue if the input is invalid, or it can perform an action (such as play an audio file, execute an applet, or communicate with a plug-in) in response to the user opening or closing a page, all without transmitting any data over the network.

Module Description

In order to determine whether the endangered or threatened species are in danger, the project aims to predict whether they are endangered or threatened according to the client’s requirements. In order to determine whether the endangered or threatened species are in danger, researchers have to determine if the population is declining and whether this is an actual threat. For example, if the population of a certain species has dropped by 90%, it is most likely a loss. The specific characteristics of this population, such as location and habitat, must be assessed to determine if there is a problem – this could be due to factors like overhunting, habitat destruction (such as farming), disease epidemics, competition with other animals, etc. These similar factors may impact an animal’s overall health

even though they do not each cause its demise individually. It is apparent that the bulk of the data is manipulated, and searching or filtering it by a human would be too hard because it would take a long time for the human to do, and the final output of the report would not be accurate. The reason is that a large amount of data does not have to be handled manually by humans in many cases. In order to resolve this problem, they need to apply a machine learning methodology to resolve it. By providing the bulk of the data to the machine, it will process it and produce an accurate output based on the data input. In the end, after the classification of the results based on the requirements, the report will be generated in PDF format to be used by the client. Once completed, the report will be forwarded to the analyst to analyse how these species are endangered or threatened. After the analysis results have been collected, the final report will be generated and sent to the client as soon as possible.

Module Description

Admin: In this module, the admin wants to log in to the admin page; it will redirect to the admin home page, which has approval to an oceanographer, approval to the researcher, approval to the analyst, species details, and requirement details menus displayed on the admin home page. Then admin will check the oceanographer registration details. Once the registration details are correct, only the admin will approve to further process; otherwise not permitted to proceed. After, the oceanographer will update the species data details and requirements details. The admin will then review the researcher's registration information. Once the registration information is accurate, only the admin will give the go-ahead to continue; otherwise, it is forbidden. Then admin will send the species details to the researcher, which the oceanographer will update. The researcher will then receive the oceanographer's requirement details information from the admin. The final admin will then review the analyst registration information. Once the registration information is accurate, only the admin will give the go-ahead to continue; otherwise, it is forbidden.

Oceanographer: In this module, the oceanographer wants to register and log in to the oceanographer page; it will redirect to the oceanographer home page, which has registration, status, upload, requirement, test details, and report status menus displayed on the model buyer home page. After logging in successfully, the oceanographer will enter their information on that page. Once registration is complete, the admin will review the information; if everything is accurate, the admin will approve the oceanographer. Otherwise, it is not allowed to proceed. Oceanographers can view their registration details on the view status page. Once the admin approves, it will show on the view status page. Then upload the species details and requirement details on the upload page. The upload and requirements menus are in the Oceanographer sub-module. Before upload, the species details and requirement details id processing will be compulsory. After entering the id, OTP will be sent to the oceanographer's registered email. After entering the OTP, it can upload the species and requirement details. Then enter the water sampling lab test results. Then finally report will be downloaded by the email the analyst sent it.

Researcher: In this module, the researcher wants to register and log in to the researcher page; it will redirect to the researcher's home page, which has admittance, status, requirements, research, and upload menus displayed on the researcher's home page. After logging in successfully, the researcher will enter their information on that page. Once registration is complete, the admin will review the information; if everything is accurate, the admin will approve the researcher. Otherwise, it is not allowed to proceed. The researcher can view their registration details on the view status page. Once the admin approves, it will show on the view status page. After that, get the species details and requirement details from the admin. Then research and analyse the species' details based on the

requirements. The current species data are analysed with the previously gathered data. Then research report will be generated in pdf format, and then it can be sent to the analyst.

Analyst: In this module, the analyst wants to register and log in to the analyst page; it will redirect to the researcher home page, which has admittance, status, research details, sample details, and analysing menus displayed on the analyst home page. After logging in successfully, the analyst will enter their information on that page. Once registration is complete, the admin will review the information; if everything is accurate, the admin will approve the analyst. Otherwise, it is not allowed to proceed. The analyst can view their registration details on the view status page. Once the admin approves, it will show on the view status page. After getting the report from the researcher on the research details page, download the report in pdf format. After analysing based on the research report, get the water sampling lab test results before starting the analysis. Then finally, generate the overall report and send it to the oceanographer's email id (figure 3).

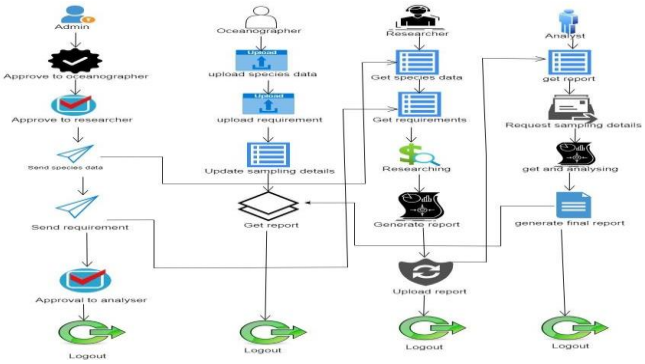

Figure 3: System Architecture

E-R Diagrams

A conceptual ER-Diagram organises the system's relations, detailing not only the present entities but also the standard relations via which the system exists and the cardinalities required for the system state to continue. The ERD shows how the various data objects are connected to one another. The entity relationship diagram (ERD) is the primary notation for data modelling; data object descriptions can be used to elaborate on the characteristics of each entity in the ERD (figure 4).

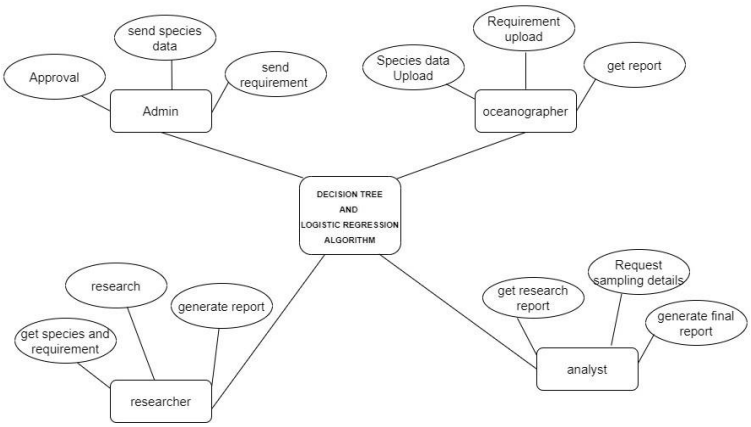

Figure 4: E-R Diagrams

Flow Diagrams

A data flow diagram is a graphical representation of a system's data flow, used for both documentation and analysis. These are the main resource from which all the other parts stem. Data processing, or the translation of data from input to output, can be conceptually represented in isolation from the physical components of a system. The term "logical data flow diagram" describes this type of diagram. Data implementation and mobility across individuals, departments, and workstations are depicted visually in data flow diagrams. Data flow diagrams are used to describe entire systems. The data flow diagrams are created with two well-known notations: Yourdon, Gane, and Sarson notation. In a DFD, each part is given a meaningful label (figure 5).

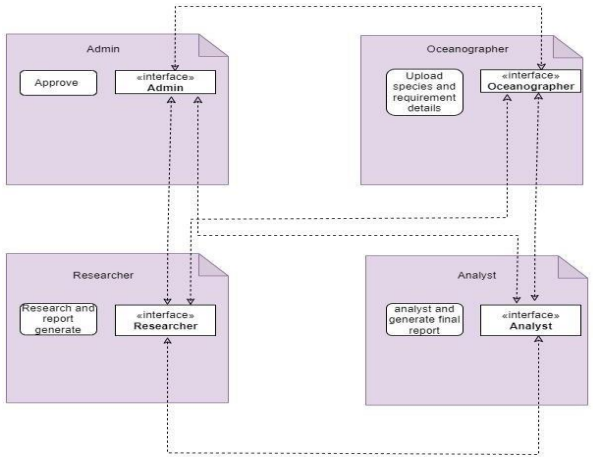

Figure 5: Deployment Diagram

System Testing and Implementation

The software testing process represents the final inspection of the software's specification, design, and programming. One could argue that testing is the only non-constructive part of the software engineering process.

Strategic Approach to Software Testing

The software development life cycle is similar to a spiral. Software requirement analysis establishes the information domain, functionalities, behaviour, performance, restrictions, and validation criteria for software after system engineering specifies the role of software. Design and then programming get closer to the centre as we progress along the spiral. When making software, we follow a spiralling path of decreasingly abstracted streamlines.

The spiral can also be seen as an approach for software testing. At its core, unit testing is focused on verifying that each individual piece of code works as intended. Integration testing, which is further out on the testing spiral, focuses on the design and construction of the software architecture.

Computer Safety: There are four main concerns with the security system: Computer security is the prevention of unauthorised access to or use of computer systems, data, programmes, procedures, and personnel.

When discussing the protection of hardware and software from intentional or unintentional damage by a predetermined danger, the term "system security" is typically utilised.

Data security prevents data from being stolen, misused, or destroyed.

When we talk about "system integrity," we're referring to things like the proper operation of all hardware and software, adequate physical security, and protection from outside interference like eavesdropping and wiretapping.
The term "privacy" describes the user's or organization's right to decide what data to make public and what data to keep private, as well as safeguards against the unwanted, unjust, or excessive disclosure of such data.
Information that should be kept private is marked as confidential in a database. It's a defining feature of information that necessitates special safeguards.
Software Safety: When we talk about safeguarding our systems, we're referring to the many data validations that are implemented as checks and controls to make sure nothing goes wrong. It is crucial to check that only legitimate information is entered and actions are taken at all times.

Client-Side Validation

To ensure that only legitimate data is entered by the client, several client-side validation methods are employed. Client-side validation alleviates the burden on servers caused by incorrect data. There are restraints, such as: Only valid information is entered into the mandatory fields thanks to JavaScript. The fields on the forms have reasonable maximum lengths. Client-side validation of mandatory fields prevents submission of forms with missing information, relieving strain on the server and preventing human error.

Server-Side Validation

The client side cannot do all checks. In order to prevent the system from crashing, checks must be conducted on the server side to alert the user that they have attempted an invalid operation or that the operation they attempted is forbidden. Some examples of validation performed by the server include: The integrity of the primary key and foreign key has been made subject to a limitation on the server. There is no way to replicate the value of a primary key. Forms that make use of foreign keys will only allow updates to be made with the preexisting foreign key values, and will alert the user if they try to change the primary value. The user is informed of any server-side successes or failures through the display of relevant notifications. In order to prevent any one user from causing trouble for another, numerous Access Control Mechanisms have been developed. The organisational structure governs the level of access granted to different user roles. Authorized users only have access to the system and can utilise the features available to them in accordance with their role. The server handles all authentication and access management. Limits are placed on a number of prohibited operations via server-side validation.

Conclusion

Both the decision tree and logistic regression algorithms are used in our proposed solution. The application benefits more from having both kinds of algorithms at work. The majority of the data has

been categorised using the decision tree technique. We used the logistic regression approach to identify root causes and develop appropriate mitigation strategies. Based on the criteria, the classification procedure will establish which species are in danger of extinction. To determine why these species are in danger, oceanographers' laboratory test results on water samples should be gathered. During predetermined time intervals, representative samples are drawn for analysis. As a result, our proposed version produces a high-quality result and satisfies the necessary need in study. The key benefits of this strategy are its precision and its ability to make timely adjustments. It will be improved and used experimentally in the future to better fit the requirements of a certain situation.

Reference

1. S. S. Banait, S. S. Sane, D. D. Bage and A. R. Ugale, "Reinforcement mSVM: An Efficient Clustering and Classification Approach using reinforcement and supervised Technique, "International Journal of Intelligent Systems and Applications in Engineering (IJISAE), Vol.35, no.1S, p .78-89. 2022.
2. S. S. Banait, S. S. Sane and S. A. Talekar, "An efficient Clustering Technique for Big Data Mining", International Journal of Next Generation Computing (IJNGC), Vol.13, no.3, pp.702-717. 2022.
3. S. A. Talekar , S. S. Banait and M. Patil.. "Improved Q- Reinforcement Learning Based Optimal Channel Selection in CognitiveRadio Networks," International Journal of Computer Networks & Communications (IJCNC), Vol.15, no.3, pp.1-14, 2023.
4. S. S. Banait and Dr. S. S. Sane, "Novel Data Dimensionality Reduction Approach Using Static Threshold, Minimum Projection Error and Minimum Redundancy, "Asian Journal of Organic & Medicinal Chemistry (AJOMC), Vol.17, no.2, pp.696-705, 2022.
5. S. S. Banait and S. S. Sane, "Result Analysis for Instance and Feature Selection in Big Data Environment, "International Journal for Research in Engineering Application & Management (IJREAM), Vol.8, no.2, pp.210-215, 2022.
6. G. K. Bhamre and S. S. Banait, "Parallelization of Multipattern Matching on GPU, "International Journal of Electronics, Communication & Soft Computing Science and Engineering, Vol.3, no.3, pp.24-28, 2014.
7. M. Shah, S. Degadwala, and D. Vyas, "Diet Recommendation System based on Different Machine Learners: A Review," in 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS), 2022, pp. 290–295.
8. B. Trivedi, S. Degadwala, and D. Vyas, "Parallel data stream anonymization methods: A review," in 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS), 2022, pp. 887–891.
9. D. D. Pandya, N. S. Gupta, A. Jadeja, R. D. Patel, S. Degadwala, and D. Vyas, "Bias Protected Attributes Data Balancing using Map Reduce," in 2022 6th International Conference on Electronics, Communication and Aerospace Technology, 2022, pp. 1540–1544.
10. R. Baria, S. Degadwala, R. Upadhyay, and D. Vyas, "Theoretical Evaluation of Machine And Deep Learning For Detecting Fake News," in 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS), 2022, pp. 325–329.
11. P. Bam, S. Degadwala, R. Upadhyay, and D. Vyas, "Spoken Language Recognization Based on Features and Classification Methods: A Review," in 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS), 2022, pp. 868–873.

A. Patel, S. Degadwala, and D. Vyas, “Lung Respiratory Audio Prediction using Transfer Learning Models,” in 2022 Sixth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud)(I-SMAC), 2022, pp. 1107–1114.
12. V. K. Singh, S. Pandey, S. Degadwala, and D. Vyas, “DNA and KAMLA Approaches in Metamorphic Cryptography: An Evaluation,” in 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS), 2022, pp. 1173–1178.
13. D. D. Pandya, G. Amarawat, A. Jadeja, S. Degadwala, and D. Vyas, “Analysis and Prediction of Location based Criminal Behaviors Through Machine Learning,” in 2022 International Conference on Edge Computing and Applications (ICECAA), 2022, pp. 1324–1332.
14. S. Patel, H. Patel, D. Vyas, and S. Degadwala, “Multi-Classifier Analysis of Leukemia Gene Expression From Curated Microarray Database (CuMiDa),” in 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), 2021, pp. 1174–1178.
15. S. Degadwala, B. Patel, and D. Vyas, “A review on Indian state/City Covid-19 cases outbreak forecast utilizing machine learning models,” in 2021 6th international conference on inventive computation technologies (ICICT), 2021, pp. 1001–1005.
16. Ramesh, S., Rama Rao, T., “Indoor channel characterization studies for V-band gigabit wireless communications using dielectric-loaded exponentially tapered slot antenna,” International Journal of Microwave and Wireless Technologies, vol. 8, no. 8, pp. 1243-1251, 2016.
17. Ramesh, S., Rama Rao, T., “Millimeter wave dielectric loaded exponentially tapered slot antenna array using substrate integrated waveguide for gigabit wireless communications,” Journal of Infrared and Millimeter Waves, vol. 34, no. 5, pp. 513-519, 2015.
18. S.Chitra, N.Kumaratharan, S.Ramesh, “A novel subspace method for precise carrier frequency offset estimation in multicarrier modulation scheme under multiuser environment,” International Journal of Communication Systems, vol. 33, no. 17, pp. e4608, 1-16, 2020.
19. V. Satheesh Kumar, S. Ramesh, “Implementation of High-Q Embedded Band Pass Filter in Wireless Communication,” Intelligent Automation & Soft Computing, vol. 36, no. 2, pp. 2191-2200, 2023.
20. V. Satheesh Kumar, S. Ramesh, “LCP Based Planar High Q Embedded Band Pass Filter for Wireless Applications,” Journal of Mobile Multimedia, vol. 14, no. 3, pp. 307-318, 2018.
21. K. Kayalvizhi, S. Ramesh, “Design and Analysis of Reactive Load Dipole Antenna using Genetic Algorithm Optimization,” Applied Computational Electromagnetics Society Journal, vol. 35, no. 3, pp. 279-287, 2020.
22. J. Jayalakshmi, S. Ramesh, “Compact Fractal wearable Antenna for Wireless Body Area Communications,” International Journal of Telecommunications and Radio Engineering, vol. 79, no. 1, pp. 71-80, 2020.
23. S. Ramesh, T. Rama Rao, “High Gain Dielectric loaded Exponentially Tapered Slot Antenna Based on Substrate Integrated Waveguide for V-Band Wireless Communications,” Applied Computational Electromagnetics Society Journal, vol. 29, no. 11, pp. 870-880, 2014.
24. M. Vanitha, S. Ramesh, S. Chitra, “Wearable Antennas for Remote Health Care Monitoring System Using 5G Wireless Technologies,” International Journal of Telecommunications and Radio Engineering, vol. 78, no. 14, pp. 1275-1285, 2019.
25. Chitra S, Kumaratharan N, Ramesh S, “Enhanced brain image retrieval using carrier frequency offset compensated orthogonal frequency division multiplexing for Telemedicine applications,” International Journal of Imaging Systems and Technology, vol.28, no.3, pp. 186-195, 2018.
26. K. Gupta, A. Choubey, and S. Choubey, “Salp swarm optimisation with deep transfer learning

enabled retinal fundus image classification model," Int. J. Netw. Virtual Organ., vol. 27, no. 2, p. 163–180, 2022.
27. Gupta, I.K., Choubey, A. and Choubey, S., 2022. Mayfly optimization with deep learning enabled retinal fundus image classification model. Computers and Electrical Engineering, 102, p.108176.
28. Gupta, I.K., Choubey, A. and Choubey, S., 2022. Artifical intelligence with optimal deep learning enabled automated retinal fundus image classification model. Expert Systems, 39(10), p.e13028.
29. Mishra, A.K., Gupta, I.K., Diwan, T.D. and Srivastava, S., 2023. Cervical precancerous lesion classification using quantum invasive weed optimization with deep learning on biomedical pap smear images. Expert Systems, p.e13308.
30. Gupta, I.K., Mishra, A.K., Diwan, T.D. and Srivastava, S., 2023. Unequal clustering scheme for hotspot mitigation in IoT-enabled wireless sensor networks based on fire hawk optimization. Computers and Electrical Engineering, 107, p.108615.
31. Uddin, M. I., Ali Shah, S. A., Al-Khasawneh, M. A., Alarood, A. A., & Alsolami, E. (2022). Optimal policy learning for COVID-19 prevention using reinforcement learning. Journal of Information Science, 48(3), 336-348.
32. Ullah, Z., Zeb, A., Ullah, I., Awan, K. M., Saeed, Y., Uddin, M. I., ... & Zareei, M. (2020). Certificateless proxy reencryption scheme (CPRES) based on hyperelliptic curve for access control in content-centric network (CCN). Mobile Information Systems, 2020, 1-13.
33. Alarood, A. A., Alsolami, E., Al-Khasawneh, M. A., Ababneh, N., & Elmedany, W. (2022). IES: Hyper-chaotic plain image encryption scheme using improved shuffled confusion-diffusion. Ain Shams Engineering Journal, 13(3), 101583.
34. Rani, R., Kumar, S., Kaiwartya, O., Khasawneh, A. M., Lloret, J., Al-Khasawneh, M. A., ... & Alarood, A. A. (2021). Towards green computing oriented security: A lightweight postquantum signature for IoE. Sensors, 21(5), 1883.
35. Saleh, M. A., Othman, S. H., Al-Dhaqm, A., & Al-Khasawneh, M. A. (2021, June). Common investigation process model for Internet of Things forensics. In 2021 2nd International Conference on Smart Computing and Electronic Enterprise (ICSCEE) (pp. 84-89). IEEE.
36. Mast, N., Khan, M. A., Uddin, M. I., Ali Shah, S. A., Khan, A., Al-Khasawneh, M. A., & Mahmoud, M. (2021). Channel contention-based routing protocol for wireless ad hoc networks. Complexity, 2021, 1-10.
37. Al-Khasawneh, M. A., Shamsuddin, S. M., Hasan, S., & Bakar, A. A. (2018, July). MapReduce a comprehensive review. In 2018 International Conference on Smart Computing and Electronic Enterprise (ICSCEE) (pp. 1-6). IEEE.
38. Kumar, V., Kumar, S., AlShboul, R., Aggarwal, G., Kaiwartya, O., Khasawneh, A. M., ... & Al-Khasawneh, M. A. (2021). Grouping and Sponsoring Centric Green Coverage Model for Internet of Things. Sensors, 21(12), 3948.
39. Sabir, M. W., Khan, Z., Saad, N. M., Khan, D. M., Al-Khasawneh, M. A., Perveen, K., ... & Azhar Ali, S. S. (2022). Segmentation of Liver Tumor in CT Scan Using ResU-Net. Applied Sciences, 12(17), 8650.
40. Alam Khan, Z., Feng, Z., Uddin, M. I., Mast, N., Ali Shah, S. A., Imtiaz, M., ... & Mahmoud, M. (2020). Optimal policy learning for disease prevention using reinforcement learning. Scientific Programming, 2020, 1-13.
41. Meng, F., Jagadeesan, L., & Thottan, M. (2021). Model-based reinforcement learning for service mesh fault resiliency in a web application-level. arXiv preprint arXiv:2110.13621.
42. Meng, F., Zhang, L., & Chen, Y. (2023) FEDEMB: An Efficient Vertical and Hybrid Federated

Learning Algorithm Using Partial Network Embedding.
43. Meng, F., Zhang, L., & Chen, Y. (2023) Sample-Based Dynamic Hierarchical Trans-Former with Layer and Head Flexibility Via Contextual Bandit.
44. Meng, F. (2023) Transformers: Statistical Interpretation, Architectures and Applications.
45. M. Modekurti-Mahato, P. Kumar, and P. G. Raju, "Impact of Emotional Labor on Organizational Role Stress – A Study in the Services Sector in India," Procedia Economics and Finance, vol. 11, pp. 110–121, 2014.
46. M. Modekurti, and R. Chattopadhyay, "The relationship between organizational role stress and life satisfaction levels among women employees: an empirical study," The Icfaian Journal of Management Research. vol. 7, no. 5, pp. 25-34. 2008.
47. M. Mahato, "Organizational change: An action oriented toolkit," South Asian Journal of Management, vol. 22, no. 4, pp. 197. 2015.
48. P. G. Raju and M. M. Mahato, "Impact of longer usage of lean manufacturing system (Toyotism) on employment outcomes - a study in garment manufacturing industries in India," International Journal of Services and Operations Management, vol. 18, no. 3, p. 305, 2014.
49. M. Mahato, "Performance Analysis of High, Medium and Low Companies in Indian Pharmaceuticals Industry," IUP Journal of Management Research, vol. 10, no. 3, pp. 52-70, 2011.
50. M. Mahato, "Life satisfaction–what does it really mean to Indians?," PURUSHARTHA-A journal of Management, Ethics and Spirituality , vol. 7, no. 1, pp. 79–87. 2014.
51. M. Mahato and P. Kumar, "Emotional Labor – An Empirical Analysis of the Correlations of Its Variables," European Journal of Business and Management, vol. 4, no. 7, pp. 163–168, Jun. 2012.
52. M Modekurti , "The nature of leadership: Reptiles, mammals, and the challenge of becoming a great leader", South Asian Journal of Management, vol 14, no 4, pp 155, 2007.
53. Santoso, L.W., Yulia. (2020) "Predicting student performance in higher education using multiregression models", Telecommunication Computing Electronics and Control, Journal, vol. 18, no. 3, pp. 1354-1360.
54. Santoso, L.W., Yulia. (2019) "ITIL Service Management Model for E-learning", Journal of Adv. Research in Dynamical & Control Systems, vol. 11, no. 6, pp. 190-197.
55. Santoso, L.W., Lim, R. and Trisnajaya, K. (2018) "Smart Home System Using Internet of Things", Journal of Information, Communication and Convergence Engineering, Vol. 16 No.1.
56. Santoso, L.W. and Yulia, (2018) "Academic Decision Support System for Top Management", Advanced in Natural and Applied Sciences, Vol. 12 No. 4.
57. Santoso, L.W. and Yulia, (2017) "Data Warehouse with Big Data Technology for Higher Education", Procedia Computer Science, Vol. 124 No. 1.
58. Santoso, L.W., Yulia, and Widjanadi, I. (2016), "The application of New Information Economics Method on distribution company to improve the efficiency and effectiveness of performance", International Journal of Engineering and Manufacturing, Vol. 6. No. 5, Sept 2016.
59. A, V. V. ., T, S. ., S, S. N. ., & Rajest, D. S. S. . (2022). IoT-Based Automated Oxygen Pumping System for Acute Asthma Patients. European Journal of Life Safety and Stability (2660-9630), 19 (7), 8-34.
A. Das and M. A. Akour, "Intelligent Recommendation System for E-Learning using Membership Optimized Fuzzy Logic Classifier," 2020 IEEE Pune Section International Conference (PuneCon), Pune, India, 2020, pp. 1-10, doi: 10.1109/PuneCon50868.2020.9362416.
60. Das and S. K. Sarma. Article: A Study on Energy Consumption in WLAN and Improving its Efficiency through an NBE-Algorithm. International Journal of Computer Applications 73(2):1-4,

July 2013.
61. I. Zannah, S. Rachakonda, A. M. Abubakar, S. Devkota, and E. C. Nneka, "Control for Hydrogen Recovery in Pressuring Swing Adsorption System Modeling," FMDB Transactions on Sustainable Energy Sequence, vol. 1, no. 1, pp. 1–10, 2023.
62. Awais, M., Bhuva, A., Bhuva, D., Fatima, S., & Sadiq, T. (2023). Optimized DEC: An effective cough detection framework using optimal weighted Features-aided deep Ensemble classifier for COVID-19. Biomedical Signal Processing and Control, 105026. doi:10.1016/j.bspc.2023.105026
63. Bhakuni S, "Conflict management: Reason, Reaction, Resolve, Reconcile and Revive," Asian Journal of Management and Commerce, vol. 3, no. 1, pp. 118-124, 2022.
64. Bhakuni S, "Leadership-The most important area of educational performance," Ilomata International Journal of Management, vol. 3, no. 3, pp. 284-297, 2022.
65. Bhakuni S, "Managing employees: Requirement of a humane approach," International journal of research in finance and management. Vol. 5, no. 1, pp. 54-57, 2022.
66. Bhakuni S, "Managing employees' involvement using motivation-The key leadership skill," International Journal of Advanced in Management, Technology and Engineering Sciences, vol.12, no. 5, pp. 37-47, 2022.
67. Bhakuni S, "Personality traits and their use in attaining organizational goals," International Journal of HRM and organizational Behaviour, vol. 10, no. 2, pp. 74-80, 2022.
68. Goswami, A. Das, K. I. Ogaili, V. K. Verma, V. Singh and D. K. Sharma, "Device to Device Communication in 5G Network using Device-Centric Resource Allocation Algorithm," 2022 4th International Conference on Inventive Research in Computing Applications (ICIRCA), Coimbatore, India, 2022, pp. 467-472, doi: 10.1109/ICIRCA54612.2022.9985502.
69. Choudhury, B., Das, A. (2020). Incepting on Language Structures with Phonological and Corpus Analysis Using Multilingual Computing. In: Saha, A., Kar, N., Deb, S. (eds) Advances in Computational Intelligence, Security and Internet of Things. ICCISIoT 2019. Communications in Computer and Information Science, vol 1192. Springer, Singapore.
70. Dahal, R. K., Ghimire, B., & Rai, B. (2022). A balanced scorecard approach for evaluating organizational performance of Nepal Telecom. Management Dynamics, 25(1), 63–73. https://doi.org/10.3126/md.v25i1.53288
71. Dahal, R. K., Ghimire, B., & Rai, B. (2023). The strength of corporate governance metrics on organizational performance of Nepalese telecom industry. THE BATUK: A Peer Reviewed Journal of Interdisciplinary Studies, 9(1), 58–74. https://doi.org/10.3126/batuk.v9i1.51900
72. Dahal, R. K., Ghimire, B., Rai, B., & Shahi, B. J. (2023). Customer's perspective on non-financial performance metrics of telecommunication companies: The emerging market case. Journal of Governance & Regulation, 12(2), 8–18. https://doi.org/10.22495/jgrv12i2art1
73. Das, A. (2022). Designing green IoT communication by adaptive spotted hyena tunicate swarm optimization- based cluster head selection. Transactions on Emerging Telecommunications Technologies, 33.
74. Das, A. Adaptive UNet-based Lung Segmentation and Ensemble Learning with CNN-based Deep Features for Automated COVID-19 Diagnosis. Multimed Tools Appl 81, 5407–5441 (2022).
75. Das, A., & Sarma, S.K. (2014). Energy Efficiency in IEEE 802.11 standard WLAN through MWTPP. IOSR Journal of Computer Engineering, 16, 42-46.
76. Das, A., Ali Akour, M., Bahatab, A., Zin, Q. (2022). Energy-Efficient Wireless Communications Using EEA and EEAS with Energy Harvesting Schemes. In: Patgiri, R., Bandyopadhyay, S., Borah, M.D., Emilia Balas, V. (eds) Edge Analytics. Lecture Notes in Electrical Engineering, vol

869. Springer, Singapore.
77. Das, A., Choudhury, B., Sarma, S.K. (2023). POS Tagging for the Primitive Languages of the World and Introducing a New Set of Universal POS Tagging for Sanskrit. In: Fong, S., Dey, N., Joshi, A. (eds) ICT Analysis and Applications. Lecture Notes in Networks and Systems, vol 517. Springer, Singapore.
78. Das, A., Sarma, S.K., Deka, S. (2021). Data Security with DNA Cryptography. In: Ao, SI., Gelman, L., Kim, H.K. (eds) Transactions on Engineering Technologies. Springer, Singapore.
79. Das. A. Das. S. A. U. Islam. (2018). Load Balancing and Congestion Control using Congestion Aware Multipath Routing Protocol (CAMRP) in Wireless Networks. International Journal on Future Revolution in Computer Science &Amp; Communication Engineering, 4(2), 193–198.
80. E. Vashishtha and G. Dhawan, "Bridging Generation Gap on Analysis of Mentor-Mentee Relationship in Healthcare Setting," FMDB Transactions on Sustainable Health Science Letters, vol. 1, no. 1, pp. 21–30, 2023.
81. E. Vashishtha and H. Kapoor, "Implementation of Blockchain Technology Across International Healthcare Markets," FMDB Transactions on Sustainable Technoprise Letters., vol. 1, no. 1, pp. 1–12, 2023.
82. G. Nirmala, R. Premavathy, R. Chandar, J. Jeganathan, "An Explanatory Case Report on Biopsychosocial Issues and the Impact of Innovative Nurse-Led Therapy in Children with Hematological Cancer," FMDB Transactions on Sustainable Health Science Letters, vol. 1, no. 1, pp. 1–10, 2023.
83. Gupta, M. Kumar, A. Rangra, V. K. Tiwari, and P. Saxena, Network intrusion detection types and analysis of their tools. India, 2012.
84. Iskandar Muda, Mohammad Salameh Almahairah, Rachana Jaiswal, Uday Kumar Kanike, Muhammad Waqas Arshad, Sourabh Bhattacharya, "Role of AI in Decision Making and Its Socio-Psycho Impact on Jobs, Project Management and Business of Employees", JRTDD, vol. 6, no. 5s, pp. 517–523, Jun. 2023.
85. A. Jeba, S. R. Bose, R. Boina, "Exploring Hybrid Multi-View Multimodal for Natural Language Emotion Recognition Using Multi-Source Information Learning Model," FMDB Transactions on Sustainable Computer Letters., vol. 1, no. 1, pp. 12–24, 2023.
86. Jeganathan, S. Vashist, G. Nirmala, R. Deep, "A Cross Sectional Study on Anxiety and Depression Among Patients with Alcohol Withdrawal Syndrome," FMDB Transactions on Sustainable Health Science Letters, vol. 1, no. 1, pp. 31–40, 2023.
87. J. Krishna Das, A. Das and J. Rosak-Szyrocka, "A Hybrid Deep Learning Technique for Sentiment Analysis in E-Learning Platform with Natural Language Processing," 2022 International Conference on Software, Telecommunications and Computer Networks (SoftCOM), Split, Croatia, 2022, pp. 1-7, doi: 10.23919/SoftCOM55329.2022.9911232.
88. Jerusha Angelene Christabel G, Shynu T, S. Suman Rajest, R. Regin, & Steffi. R. (2022). The use of Internet of Things (Iot) Technology in the Context of "Smart Gardens" is Becoming Increasingly Popular. International Journal of Biological Engineering and Agriculture, 1(2), 1–13.
89. Kanike, U. K. (2023). Factors disrupting supply chain management in manufacturing industries. Journal of Supply Chain Management Science, 4(1-2), 1-24.
90. Kanike, U.K. (2023), A systematic review on the causes of Supply Chain Management Disruption in the Manufacturing Sector, 7th International conference on Multidisciplinary Research, Language, Literature and Culture
91. Kanike, U.K. (2023), Impact of Artificial Intelligence to improve the supply chain resilience in

Small Medium Enterprises, International Conference on New Frontiers on the Global Stage of Multidisciplinary Research 2023
92. Kanike, U.K. (2023), Impact of ICT-Based Tools on Team Effectiveness of Virtual Software Teams Working from Home Due to the COVID-19 Lockdown: An Empirical Study, International Journal of Software Innovation, Vol.10, No.1, P.1-20(, 2022).
93. Kanike, Uday Kumar, "An Empirical Study on the Influence of ICT-Based Tools on Team Effectiveness in Virtual Software Teams Operating Remotely During the COVID-19 Lockdown." Dissertation, Georgia State University, 2023. doi: https://doi.org/10.57709/a9qg-7593
94. Khoshtaria, T., & Matin, A. "Qualitative investigation into consumer motivations and attitudes towards research shopping in the Georgian market". Administration and Management, Vol 48, pp 41-52, 2019.
95. Kumar et al., "Flamingo-optimization-based deep convolutional neural network for IoT-based arrhythmia classification," Sensors (Basel), vol. 23, no. 9, 2023.
96. Kumar, M. Kumar, S. Verma, K. Kavita, N. Z. Jhanjhi, and R. M. Ghoniem, "Vbswp-CeaH: Vigorous buyer-seller watermarking protocol without trusted certificate authority for copyright protection in cloud environment through additive homomorphism," Symmetry (Basel), vol. 14, no. 11, p. 2441, 2022
97. Kumar, M.; Kumar, A.; Verma, S.; Bhattacharya, P.; Ghimire, D.; Kim, S.-h.; Hosen, A.S.M.S. Healthcare Internet of Things (H-IoT): Current Trends, Future Prospects, Applications, Challenges, and Security Issues. Electronics 2023, 12, 2050. https://doi.org/10.3390/electronics12092050. .
98. A. Akour and A. Das, "Developing a Virtual Smart Total Learning Environment for Future Teaching-Learning System," 2020 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE), Takamatsu, Japan, 2020, pp. 576-579.
99. Kumar et al., "BBNSF: Blockchain-based novel secure framework using RP2-RSA and ASR-ANN technique for IoT enabled healthcare systems," Sensors (Basel), vol. 22, no. 23, p. 9448, 2022.
100. Kumar, D. Kumar, and M. A. K. Akhtar, "A modified GA-based load balanced clustering algorithm for WSN: MGALBC," Int. J. Embed. Real-time Commun. Syst., vol. 12, no. 1, pp. 44–63, 2021.
101. M. Kumar, D. Kumar, and M. A. K. Akhtar, "Mathematical model for sink mobility (MMSM) in wireless sensor networks to improve network lifetime," in Communications in Computer and Information Science, Singapore: Springer Singapore, 2019, pp. 133–141.
102. M. Suganthi, and J. G. R. Sathiaseelan, "Image Denoising and Feature Extraction Techniques Applied to X-Ray Seed Images for Purity Analysis," FMDB Transactions on Sustainable Health Science Letters, vol. 1, no. 1, pp. 41–53, 2023.
103. Matin, T. Khoshtaria and N Todua, "The Impact of Social Media Influencers on Brand Awareness, Image and Trust in their Sponsored Content: An Empirical Study from Georgian Social Media Users," International Journal of Marketing, Communication and New Media, Vol. 10, No. 18, 2022.
104. Matin, T. Khoshtaria, and G. Tutberidze, "The impact of social media engagement on consumers' trust and purchase intention," International Journal of Technology Marketing, Vol. 14, No. 3, pp.305 - 323
105. Matin, T. Khoshtaria, M. Marcan, and D Datuashvili, "The roles of hedonistic, utilitarian incentives and government policies affecting customer attitudes and purchase intention towards green products," International Review on Public and Nonprofit Marketing, Vol. 19, pp. 709–735, 2022.
106. Muda, I., Almahairah, M. S., Jaiswal, R., Kanike, U. K., Arshad, M. W., & Bhattacharya, S. (2023). Role of AI in Decision Making and Its Socio-Psycho Impact on Jobs, Project Management and Business of Employees. Journal for ReAttach Therapy and Developmental Diversities, 6(5s), 517-523.

107. Pandit, "On the Context of Diabetes: A Brief Discussion on the Novel Ethical Issues of Non-communicable Diseases," FMDB Transactions on Sustainable Health Science Letters, vol. 1, no. 1, pp. 11–20, 2023.
108. Pratap, A. Kumar, and M. Kumar, "Analyzing the need of edge computing for internet of things (IoT)," in Proceedings of Second International Conference on Computing, Communications, and Cyber-Security, Singapore: Springer Singapore, 2021, pp. 203–212.
109. R, S., Regin, R., Rajest, S. S., T, S. and G, J. A. C. (2022) "Rail Project's Needed Project Management Approaches, Strategies, Methodologies, and Processes", International Journal on Economics, Finance and Sustainable Development, 4(10), pp. 109-126.
110. R. Regin, Steffi. R, Jerusha Angelene Christabel G, Shynu T, S. Suman Rajest (2022), "Internet of Things (IoT) System Using Interrelated Computing Devices in Billing System", Journal of Advanced Research in Dynamical and Control Systems, Vol.14, no.1, pp. 24-40.
111. R. Steffi, G. Jerusha Angelene Christabel, T. Shynu, S. Suman Rajest, R. Regin (2022), " A Method for the Administration of the Work Performed by Employees", Journal of Advanced Research in Dynamical and Control Systems, Vol.14, no.1, pp. 7-23.
112. Rajest, S. S. ., Regin, R. ., T, S. ., G, J. A. C. ., & R, S. . (2022). Production of Blockchains as Well as their Implementation. Vital Annex : International Journal of Novel Research in Advanced Sciences, 1(2), 21–44.
113. Regin, D. R., Rajest, D. S. S., T, S., G, J. A. C., & R, S. (2022). An Automated Conversation System Using Natural Language Processing (NLP) Chatbot in Python. Central Asian Journal Of Medical And Natural Sciences, 3(4), 314-336.
114. Regin, R., Rajest , S. S., T , S., G, J. A. C., & R , S. (2022). An Organization's Strategy that is Backed by the Values and Visions of its Employees' Families. Central Asian Journal of Innovations on Tourism Management and Finance, 3(9), 81-96.
115. Regin, R., Rajest, S. S., T, S., & R, S. (2022). Impact of Internet Banking on the Efficiency of Traditional Banks. Central Asian Journal of Innovations on Tourism Management and Finance, 3(11), 85-102.
116. Regin, R., Rajest, S. S., T, S., Christabel G, J. A. and R, S. (2022) "The Influence that the Advertising of Pharmaceuticals has on the Economy", Central Asian Journal Of Social Sciences And History, 3(10), pp. 1-18.
117. Regin, R., Rajest, S. S., T, S., G, J. A. C., & R, S. (2022). Pharmaceutical Supply Chain Challenges and Inventory Management. Central Asian Journal of Innovations on Tourism Management and Finance, 3(10), 143-159.
118. S. Cirillo, G. Polese, D. Salerno, B. Simone, G. Solimando, "Towards Flexible Voice Assistants: Evaluating Privacy and Security Needs in IoT-enabled Smart Homes," FMDB Transactions on Sustainable Computer Letters., vol. 1, no. 1, pp. 25–32, 2023.
119. S. S. Priscila, S.S. Rajest, S. N. Tadiboina, R. Regin and S. András, "Analysis of Machine Learning and Deep Learning Methods for Superstore Sales Prediction," FMDB Transactions on Sustainable Computer Letters., vol. 1, no. 1, pp. 1–11, 2023.
120. S. S. Rajest, R. Regin, S. T, J. A. C. G, and S. R, "Improving Infrastructure and Transportation Systems Using Internet of Things Based Smart City", CAJOTAS, vol. 3, no. 9, pp. 125-141, Sep. 2022.
121. S. Upadhyay, M. Kumar, A. Kumar, K. Z. Ghafoor, and S. Manoharan, "SmHeSol (IOT-BC): Smart Healthcare Solution for future development using speech feature extraction integration approach with IOT and Blockchain," Journal of Sensors, vol. 2022, pp. 1–13, 2022. doi:10.1155/2022/3862860
122. Santoso, L.W. (2019) "Cloud Technology: Opportunities for Cybercriminals and Security Challenges," The 12th International Conference on Ubi-Media Computing, Bali Indonesia, 6-9 August 2019.
123. Santoso, L.W. (2020) "Adaptive Educational Resources Framework for eLearning using Rule-Based System," The 4th Int. Conf. on Information and Communication Technology for Intelligent Systems (ICTIS), Ahmedabad, India, 15-16 May 2020.
124. Santoso, L.W. Yulia (2014), "Analysis of the Impact of Information Technology Investments – A Survey

of Indonesian Universities", ARPN JEAS, Vol. 9 No. 12.
125. Santoso, L.W., Wilistio, A., Dewi, L.P. (2016), "Mobile Device Application to locate an Interest Point using Google Maps", International Journal of Science and Engineering Applications, Vol. 5 No. 1.
126. Shadab et al., "Comparative analysis of rectangular and circular waveguide using matlab simulation," International Journal of Distributed and Parallel System., vol. 3, no. 4, pp. 39–52, 2012.
127. Sharma, Praveen Kumar, and Shivram Sharma. "Results on Complex-Valued Complete Fuzzy Metric Spaces." Great Britain Journals Press, London Journal of Research in Science: Natural and Formal, Vol 23, Issue 2 (2023), Page No. 57-64.
128. Sharma, Praveen Kumar, S. Chaudhary, and Kamal Wadhwa. "Common Fixed Points For Weak Compatible Maps In Fuzzy Metric Spaces." International Journal of Applied Mathematical Research, Vol.1, No. (2012): pp 159-177.
129. Sharma, Praveen Kumar. "Common fixed point theorem in intuitionistic fuzzy metric space using the property (CLRg)." Bangmod Int. J. Math. & Comp. Sci., Vol. 1, No.1 (2015): pp 83-95.
130. Sharma, Praveen Kumar. "Some common fixed point theorems for sequence of self mappings in fuzzy metric space with property (CLRg)." J. Math. Comput. Sci., Vol.10, No.5 (2020): pp 1499-1509.
131. Sharma, Shivram, and Praveen Kumar Sharma. "On common α-fixed point theorems." J. Math. Comput. Sci., Vol.11, No.1 (2020): pp 87-108.
132. Suklabaidya, M., Das, A., & Das, B. (2018). A cryptography model using hybrid encryption and decryption techniques. International Journal of Computational Intelligence & IoT, 2(4).
133. T, S., Rajest, S. S., Regin, R., Christabel G, J. A., & R, S. (2022). Automation And Control Of Industrial Operations Using Android Mobile Devices Based On The Internet Of Things. Central Asian Journal of Mathematical Theory and Computer Sciences, 3(9), 1-33.
134. T. Khoshtaria, A. Matin, M. Mercan and D. Datuashvili, "The impact of customers' purchasing patterns on their showrooming and webrooming behaviour: an empirical evidence from the Georgian retail sector," International Journal of Electronic Marketing and Retailing, Vol. 12, No. 4, pp. 394-413, 2021.
135. T. Khoshtaria, D. Datuashvili and A. Matin, "The impact of brand equity dimensions on university reputation: an empirical study of Georgian higher education," Journal of Marketing for Higher Education, Vol. 30 no 2, pp. 239-255, 2020.