this represents a technical improvement over manual or semi-automated observation. We also build on and compare our work to proposed AI solutions. Karthikeyan et al. showed that machine learning on metadata and natural language processing can flag traffickers on encrypted apps, but they did not create a complete solution using actual data. Bansal and Yadav suggested using monitoring chatbots on Telegram to detect crime, which is a promising idea. Our contribution advances these concepts by scraping real Telegram messages and applying natural language processing and machine learning models for substance detection. In essence, we put the theoretical approaches into practice: instead of just analyzing patterns in metadata, we parse the content directly.

Finally, we see our pipeline as a valuable tool for monitoring darknet markets. Traditional darknet crypto-markets operate on Tor and require cryptocurrency. In contrast, Telegram drug markets often deal with fiat and rely on messaging instead of websites. Our method uses AI text analysis, which is common in web forensics, in the encrypted messenger space. This approach across different platforms is not widely explored in the existing literature. For example, the Televend market, which combines a crypto market and Telegram, has been studied, but effective detection in pure Telegram chats is a new area of research. Although our work is not yet fully developed, we look forward to improving it and tackling the challenges that may affect its execution.

Conclusion. This work shows that an AI-driven content analysis pipeline can effectively detect drug-related activity in Telegram bots and groups. By combining data scraping with Telethon, keyword analysis using NLP, and machine learning classification, we identified common substances, seller and buyer behavior, and coded messages. Our findings indicate that Telegram's structure, which includes large public groups and user anonymity, supports an online drug market that is hard to monitor with traditional methods. In conclusion, as encrypted messaging becomes more common, AI approaches like ours provide a useful tool for law enforcement and social platforms to combat illegal trade while respecting privacy. Ongoing work on responsible AI, reliable models, and cooperation across jurisdictions will help minimize the drug trade's exploitation of Telegram. Our study lays a foundation and shows that with careful design; we can automate the detection of drug activity on encrypted chat services in a practical and valuable way.

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DESIGN AND DEVELOPMENT OF BRAIN - COMPUTER INTERFACE SYSTEM USING INTERNET OF THINGS

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Abstract. Brain computer Interface is a technology that enables a human or animal brain and external technology to interact. This term may refer to an interface that carries signals to an external piece of hardware from the brain or a technology that sends signals to the brain. The explanation that a BCI functions at all is because of the way our brain functions. Our brain is packed with neurons, individual nerve cells linked by dendrites and axons to each other. Our neurons are at work every time we think, shift, feel or recall something. Small electrical signals that zip from the nucleus to the neuron as quickly as 250 mph carry out the job. Differences in electric potential carried by ions on the membrane of each neuron produce the signals. Module for controlling device through brain consists of headset sensors, Arduino / NodeMCU, personal computer / Laptop. There are two ways of testing 1. Invasive, 2. Non-Invasive. Researchers have only worked on one application of Controlling Machine through Brain i. e. Wheel chair. But there are many other applications that need to be explored. In our proposed system we are going to design explore other applications such Home Automation etc where Brain waves are used to control the home appliances.

Keywords: Brain-computer interface, Electroencephalogram, Neurosky, NodeMCU, Sensors.

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Introduction. Brain is one of the human body's biggest and most complex organs. It consists of over 100 billion nerves that interact in trillions of synapses-called links. The brain consists of many specialised fields which work together. Six main functions of brain are: Attention and emphasis, Self-surveillance, Management, Motor preparation and initiation (expressive language), Consciousness of capabilities and limits, Individuality, Mental versatility, Action Inhibition Now a day's Artificial intelligence, Machine Learning and internet of things are on Boom.

In this paper, we have proposed a system which is based on Internet of things. We have seen in our day today life about system to control various Appliances / devices though computer and mobile phones but can we think to operate device through brain?? Yes, it is true. "Controlling Device from Brain wave" is one of vast field which is growing and people have lot of interest and demand on such technology. Same system in which everything will be operated from Brain is something what we are going to design in this project.Module for controlling device through brain consists of headset sensors, Arduino / NodeMCU, personal computer / Laptop. There are two ways of testing 1. Invasive, 2. Non-Invasive.

Researchers have only worked on one application of Controlling Machine through Brain i.e. Wheel chair. But there are many other applications that need to be explored. In our proposed system we are going to design explore other applications such Home Automation etc where Brain waves are used to control the home appliances.

Literature Survey. All activity is control by nerves in the brain and all stimulation is generated initially through brain. Hence it is interesting to study how all these stimulations are generated and how it will useful for our day today life. One such example is Home Automation i.e. controlling various devices like Door, Fan etc from our brain. In Industry 4.0, everything is based on Machine Learning, Artificial Intelligence and Internet of things. Lots of work has been done on various projects in which devices such as Fan, Lights etc operates from Mobile Phone, Computer through Internet. But to controlled devices from Brain is still untouched. With Internet of things, we are operating the devices. But can we think of a system in which we operate device and that also through our brain. Yes it is true. Here we are going to design a system in which all devices are going function (controlled) from our Brain. [3; 4; 10].

We have seen in our day today life about system to control various Appliances / devices though computer and mobile phones but can we think to operate device through brain?? Yes it is true. "Controlling Device from Brain wave" is one of vast field which is growing and people have lot of interest and demand on such technology.

This project has following objectives:

a) Design a system to control wheelchair through brain,

b) Design a system to control Home Automation appliances such as Fan, light, Freeze etc through brain with efficiency of 100 %.

Next section of this paper focues on Proposed system.

Proposed System. Figure 1 shows block diagram of our system. Block diagram has four parts: Hardware platform (NodeMCU), Sensor (Neurosky), our Brain through which signals will be generated and Appliances that has to control.In our system, we are going to connect number of Neurosky sensors on our head. These Neurosky sensors will be interface with NodeMCU through Wi-Fi as Wi-Fi Module is inbuild on NodeMCU. NodeMCU will be hanging on the appliance / device that we need to control. Programming will be done in that way so that as per the signal from Brain, devices are going to work. For example: If we want to Open / Close Fan than as our Brain will think to close the Fan , signal will reach to NodeMCU by Neurosky and Fan will get close and vice-versa.

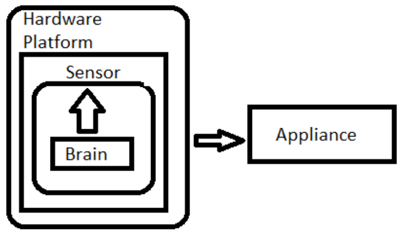

Figure 1 – Block Diagram "Control Device through Brain"

Figure 2 shows block diagram of proposed system "to control Fan from Brain". Neurosky sensor is connected with Brain. NodeMCU is connected with Fan in which programming is done on "Arduino IDE". As per our thinking, our brain neurons will generate the signals and Fan will rotate (ON/OFF).

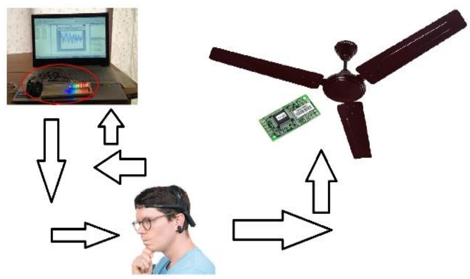

Figure 2 – Block Diagram of Proposed System "to control fan from brain"

These signals can be stored on thinkspeak server or on any other server [11] (shown by Laptop in block diagram in figure 2).

Conclusion. We can conclude that this paper focuses on design of a system in which all the devices, gadgets, appliances that operates from Brain. It will remove all hurdles which are used in previous systems. That means we don't need to use any intermediate devices to control any other devices, appliances etc.

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DETECTING EMAIL SPAM OR HAM USING LOGISTIC REGRESSION AND STREMLIT DEPOLYMENT

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Abstract. The use of email as a key form of communication has led to an increase in uninvited and potentially hazardous spam messages. This study presents a comprehensive approach to classifying emails as either spam or ham using logistic regression. Leveraging a dataset obtained from Kaggle, we performed extensive exploratory data analysis (EDA) with visualizations such as pie charts, bar plots, and confusion matrices. Using performance parameters like accuracy, precision, recall, and F1 score, the model's potential for prediction was assessed. In order to facilitate smooth interaction for real-time email classification, Streamlit was also used to develop an intuitive application. This work demonstrates the utility of logistic regression in tackling the spam problem while paving the way for further exploration using advanced machine learning models.

Keywords: EDA, ML, F1score.

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Introduction. Email communication is integral to modern digital interactions, but it is increasingly plagued by spam messages that waste time, reduce productivity, and pose security risks. Spam filters are vital for distinguishing between spam and legitimate (ham) emails. Machine learning (ML) offers automated, scalable solutions to this problem. The usefulness of «logistic regression», a popular supervised machine learning algorithm, for spam detection is investigated in this work. This study has three goals in mind:

To use exploratory data analysis in order to comprehend and visualise the dataset.

To build and evaluate a logistic regression model for spam classification.

To deploy the model using Streamlit for real-world usability.

Dataset Description.

The dataset, sourced from Kaggle, contains thousands of labeled emails. Each email is classified as