**DESSERTAION PROJECT**

**AI and machine-learning tool for emotion recognition and attention detection to be used in Neuromarketing.**

**Neuromarketing Research based topic**

**Abdullah Ayub**

# **Abstract**

The proposal is to do research on Neuromarketing and justify my research by applying different Artificial intelligence and Machine learning models. It is mainly the research-based topic that will be helpful to make market strategies for achieving sales and goals accomplishments of the company. The tools and technologies that will be used Anaconda, Microsoft, Zoom, Jupiter Notebook, Python etc. I will perform complete analysis on neuromarketing tools that includes (EEG, FMRI, Eye tracking and RFM) and add the results in my final research paper.

# **Introduction**

Neuromarketing comprises of two words, “**neuro**” means nerves or related to brain, and “**marketing**” means advertising or promotion of products [2]. Neuromarketing is a commercial marketing communication field that applies neuropsychology to market research, studying consumer’s cognitive behaviors [1].

We found that electroencephalography (EEG) is the most popular neuroimaging tools is neuromarketing research, followed by eye tracking (EET), Functional magnetic resonance imaging (FMRI) and RFM segmentation. I will perform analysis on those topics and includes their results in my research.

RFM analysis is a tool used to categorize customers according to their purchasing behavior and allows marketer to target specific clusters of customers based on their behavior. RFM stands for recency, frequency, and monetary value. The purpose is to predict future consumer behavior for better segmentation decisions to increase the company sales [3].

FMRI measures brain activity and functioning by detecting changes associated with blood flow. FMRI signal is recorded when a specific cognitive task in different brain regions is being performed such as visual perception, language, motor, or memory [4]. FMRI uses earlier MRI scanning technology. It creates strong, permanent, and static magnetic field to align in the brain region [5]. It measures the blood flow, emotions and reaction in the brain activated by commercials. Based on these results, we can judge foe effective advertising [6].

EEG is the abbreviation of Electroencephalography, which means an electrical reproduction of activity. EEG is the process of brain scanning that records the electrical activity information on the scalp produced by the brain while the consumer is exposed to a particular stimulus [7]. To evaluate the Behaviors from a neurophysiological point of view, I have performed analysis on EEG wage signals to assess the cognitive control behaviors [8].

Eye trackers are used in research on product design and software design in the field of neuromarketing. Eye trackers are used in research on product design and software design in the field of neuromarketing. I will try to develop an application of eye motion tracking that can helps to track the eye positioning and eye movement as its focus shifts along the surface of a visual trigger [9].

# **Objectives & Goals**

* To study the stance of neuromarketing in current scenario.
* To identify the various techniques used in neuromarketing.

# **Literature Review**

# **Methodology**

The tools and technologies used are Jupiter, Anaconda, Microsoft Android. I will perform **ANALYSIS** on the dataset of these topics to justify my Neuro marketing research paper.

* EEG Behavior Analysis
* RFM Analysis of consumer behavior
* Data Analysis of FMRI Neuroimaging
* Eye Motion Tracking Behavior Analysis

# **Results & Evaluations**

I will check the results and compare the accuracy by applying different machine learning and deep learning techniques. Display results using data visualization and confusion matrix.

# **Conclusion**

To conclude, the research will demonstrate about the consumer behavior neuropsychology point of view, business strategies, tools, and technologies that can be helpful for the company to increase their sales and attract vide customers. I perform analysis on the datasets related to the neuromarketing, will generate results to justify my research.

# **References:**

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