**Github Link:** [**https://github.com/arfan64shah/Arfan\_FinalYearProject**](https://github.com/arfan64shah/Arfan_FinalYearProject)

**Ideas for Final Year Project**

**Detecting Fake Currency Notes using Convolutional Neural Networks (CNN)**

As we all know that fake currency notes are used widely by robbers, thieves, and other people. The banks in the large cities have digital systems to detect these fake currency notes. The banks in small towns and villages like Gilgit, Naryn, and Khorog do not have that facility. More importantly shopkeepers and other people in these remote areas do not have any system to detect such fraud and fake currency notes and they sometimes get deceived by fraud people. Some people in my hometown experienced huge loss in the hands of such fraud people. I want to make a system which can detect both real and fake currency notes. This system will be easily available to common people so that they can use it to detect fake currency notes. I will use Machine Learning especially Convolutional Neural Network (CNN) for this purpose. I will train the model using real notes and it will be able distinguish between real and fake notes.

**Research on detecting heart related disease using Machine Learning**

According to World Health Organization, Cardiovascular Disease (CVDs) are the leading cause of death globally and around 17.9 million people die annually due to cardiovascular disease (World Health Organization). In the big cities there are good hospitals and people are also rich so they afford to go to such big hospitals and can diagnose CVDs in time so that it can be treated in time. While in small towns like Gilgit, Naryn, Khorog people are poor and there are not good hospitals where people can diagnose and treat CVDs. In such circumstance if people found some easy way to know if they have any symptoms of CVDs in early time, they can get treatment in time. Many people do not know CVDs in early stages and when it starts to show symptoms then it usually gets late to be treated. I will apply various Machine learning algorithms such as KNN, Random Forest, Decision Tree, Artificial Neural Network (ANN) and many others and I will compare their accuracies and will select the one which predicts the best. I will write a research paper and if I get time, I can make a proper website and will make it available online for everyone.

**Generating paragraphs and essays by writing few words using Machine Learning**

The world is digitalized, and people are getting busy day by day and they do not have enough time for writing essays, CVS, resumes etc. People do not want to spend a lot of time to just write an essay or cover letter. They need smart ways in which they can do such task in a few minutes. I thinking to apply Machine Learning and Deep Learning algorithms which can do this task in a very smart way. By applying these algorithms people can just write some words and whole essay will be generated for them. For instance, you want to write an essay on beauty of garden, and you will write few words such as garden, beautiful, fruits, green, flowers, clean water etc. then the model will provide you an essay which will contain the description of the beauty of the garden. My first priority to publish a research paper on this but if I get time, I will make a beautiful app or website and it will be available to everyone on the internet.

**Floods Forecasting in Gilgit-Baltistan using Deep Learning**

Global warming is one of the burning issues in today’s world and it is real. Today world is witnessing the serious effects of global warming. Gilgit-Baltistan is one of the regions which is always vulnerable being mountainous region. Due to global warming the glaciers in the mountainous areas are melting rapidly which results to floods in the respected areas. Recently Gilgit-Baltistan is hit in a worst way by the floods. A continuous rain for a week resulted to huge floods in the region. This is a very serious issue not in Gilgit-Baltistan, but in every mountainous region including Naryn and Khorog. Therefore, I have come up with an idea to deal with this issue so that people can be prepared before hand for this disaster which can prevent from various sorts of losses such as lives loss, property loss etc. I am planning to use Artificial Neural Networks (ANN) and Convolutional Neural Network (CNN) to predict the flood and weather forecast. I am planning to publish a research paper on this issue.

<https://tcktcktck.org/gilgit-baltistan/december-2010>

<https://sci-hub.se/https://ieeexplore.ieee.org/document/9378529>

<https://ieeexplore.ieee.org/search/searchresult.jsp?newsearch=true&queryText=deep%20learning%20in%20flood%20forecasting>

https://research.polyu.edu.hk/en/publications/deep-neural-network-based-feature-representation-for-weather-fore

<https://www.mdpi.com/2073-4441/10/11/1519>

<https://www.mdpi.com/2073-4441/10/1/53>

Text generation using LSTM

Build Deep Learning Recommendation engine for a SaaS app that helps freelancers find gigs