***Final Year Project***

***Learn and Earn App***

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***2019***

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# Acknowledgment:

Everything begins and ends with the name of Almighty Allah and we would like to thank him for providing us with the opportunity of a lifetime to study and work under these extraordinary teachers and for giving us the opportunity to solve a problem that we intend to do with this task.

We would also like to thank our institute, FAST NUCES, for giving us the opportunity to gain the experience required performing this and many other tasks that we would be able to complete in both our professional and personal life.

Last but not the least, we would like to thank our mentor and supervisor, Sir Tahir Farooq and Sir Rizwan ul Haq for taking us under their wing and providing us with all the support we needed and will need in order to complete this task

# Abstract:

# The purpose of our FYP is to solve the real life problem using Artificial Intelligence. We will provide a platform where teacher can teach and student can learn easily. The high level features of our app is

# Automate plagiarism checker using NLP

# Automate Face Recognition Attendance System using DL

# Automate Emotion Detection using DL

# Teacher Recommendation System using ML

# Live Video Lectures

# Resume Generate

# 

# Introduction:

The learn and earn app will have two actors teacher and student respectively. Our domain is Educational Purpose Students and teachers will register themselves according to their area of interest/skills of learning and teaching respectively. We will clean and transform the teacher and student data and then app will generate teacher’s CV and recommend best teachers using machine learning Algorithms. The App will provide a dashboard to teachers where all the students will be showed and teacher can deliver online live teaching sessions and videos and chats etc. Teacher will not manually check plagiarism and mark attendance, we will perform NLP (Natural Language Processing) to check the Plagiarism of students and then we also apply Computer Vision using Deep Learning to Automate Face Recognition Attendance and Emotion Detection for the ease of teacher.

# Problem Statement:

Basically,This learn and earn app will solve the biggest five problems of student and teachers that are given below:

1. Teacher don’t have to mark attendance manually.
2. Teachers don’t have to check plagiarism manually.
3. Teachers don’t have to take feedback manually.
4. Students can easily learn any skills at their home with certification.
5. Teachers can easily teach and earn while students can easily learn with certifications

# Description:

The learn and earn app will have two actors teacher and student respectively. Our domain is Educational Purpose Students and teachers will register themselves according to their area of interest/skills of learning and teaching respectively. We will clean and transform the teacher and student data and then app will generate teacher’s CV and recommend best teachers using machine learning Algorithms. The App will provide a dashboard to teachers where all the students will be showed and teacher can deliver online live teaching sessions and videos and chats etc. Teacher will not manually check plagiarism and mark attendance, we will perform NLP (Natural Language Processing) to check the Plagiarism of students and then we also apply Computer Vision using Deep Learning to Automate Face Recognition Attendance and Emotion Detection for the ease of teacher.

# Techniques:

We will use following technologies in our learn and earn android app.

## Machine Learning:

We will use machine learning algorithms for the best recommendation teacher It include Content Based or Collaborating Filtering Algorithms. Using one of this algorithm our app will recommend the best teachers to students like on fiverr.

## Natural Language Processing:

*We will use Natural Language Processing for Plagiarism Checker in which we will clean files using tokenization, remove stop words, stemming, lemmatization and then create BOW and Apply Jeccard Similarity Algorithm to find the similar documents.*

## Computer Vision:

*We will use Computer Vision for Face Recognition and Emotion Detection, In which we extract face from image using FaceNet and then Calculate Face Embedding Vector and then apply SVM ML Algorithm to train the model for Face Recognition and then we will train another model to classify either that face is happy, sad , surprise or angry using Deep Learning CNN Architecture.*

# Tools:

## Android Studio:

*We will use android studio to develop our learn and earn app. Android studio is the modern tool to develop android apps and it is more efficient and reliable and secure for android apps so that is why we are using android studio to build our app.*

## Firebase:

Firebase is the modern way to store and retrieve data on cloud. It provide all kind of security, hosting, authentication, storage, cloud messaging and Crash reporting. It can be connect will any platform i.e C#, java , php etc.

## PyCharm (Django):

Pycharm is python development tool, we will use it for the Machine learning and Deep Learning using python.

# High Level Features:

Following are the high level features in our learn and earn app.

## Automate Plagiarism Check using Natural Language Processing:

*We will use Natural Language Processing for Plagiarism Checker in which we will clean files using tokenization, remove stop words, stemming, lemmatization and then create BOW and Apply Jeccard Similarity Algorithm to find the similar documents.*

## Best Teacher Recommendation using Machine Learning:

We will use machine learning algorithms for the best recommendation teacher It include Content Based or Collaborating Filtering Algorithms. Using one of this algorithm our app will recommend the best teachers to students like on fiverr.

## Automate Face Recognition and Emotion Detection using Deep Learning:

## We will use Computer Vision for Face Recognition and Emotion Detection, In which we extract face from image using FaceNet and then Calculate Face Embedding Vector and then apply SVM ML Algorithm to train the model for Face Recognition and then we will train another model to classify either that face is happy, sad , surprise or angry using Deep Learning CNN Architecture.

# Conclusion:

*In this, an innovative, knowledge-based methodology “earning and learning” on the mobile device is presented. The results of this study suggest that the methodology can be useful for students and teachers*

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