
EE/CprE/SE 492 WEEKLY REPORT 02

28/1/24 – 08/2/24

Group number: 07

Project title: Skin Cancer Diagnosis Using Artificial Intelligence on the Cloud

Client &/Advisor: Ashraf Gaffar

Team Members/Role:

Evan Hanson - Project Manager/Programmer

Ziyad Alqahtani - Researcher/Programmer

Wonjun Choi - Researcher/Programmer

Anirudh Ambore - Researcher/Programmer

Abdelrahman Mohamed - Researcher/Programmer

Mishari Alharbi - Researcher/Programmer

o Weekly Summary

- We met with our client on Tuesday, and the following is what we discussed:
 - We talked about publishing a paper and the possible conferences we might contribute to.
 - We reviewed the progress of our model and how accurate it should be.
 - We set the next goal, which is setting up the cloud service (GCP, AWS).

o Past week accomplishments

- Evan Hanson: Worked on transfer learning using Keras models (MLP-mixer) and inceptionV3 achieving roughly 80 percent accuracy before fine tuning, after getting 92% accuracy on a dataset of 10k images, attempted other models to build a set of models that we can use to compare when deciding what model we should utilize for our final application. Total hours 10
- Anirudh Ambore: Worked on transfer learning with Keras/TensorFlow to improve metrics like the accuracy of skin cancer detection. Compared several models against each other like EfficientNet and

MobileNet to determine which one is the most efficient. Achieved 90%+ for accuracy and test accuracy using MobileNetV3. Total (10 hours)

- Abdelrahman Mohamed: Read about AutoKeras, which is a framework based on keras to help us find the best model for our dataset. Tried to run it on our dataset but was not successful. Worked on completing flutter/dart setup. (Total 10 Hours)
- Ziyad Alqahtani: I tried to run a model with our data set. Specifically, I tried running the Image Classification using Global Context Vision Transformer. However, I couldn't run it due to some errors that I couldn't figure out. Also, I read about the cloud services such as AWS and GCP. Each of their official websites has (tutorials and blogs) that help the user to understand how they work. (Total hours approx. 7 hours)
- Mishari Alharbi: Ran some models but was not successful. Researched different models with different data sets. (Total hours approx. 6 hours)
- Wonjun Choi: I tried to run image classification using the CCT model (compact convolutional transformers), but I was unable to run the model due to constant errors. Also, I designed AWS Architecture Design for our project. (Total 8 hours)

o **Pending issues**

- We couldn't find someone to fund us for cloud services yet.
- Decide how we will connect our service to the Cloud using AWS and GCP.

o **Plans for the upcoming week**

- Our plan for this week is to set up the cloud, so that we can run our model there. If we do not find someone to fund us, then we might end up paying for the cloud services ourselves.
- Creating a software architecture model of the app.