

EE/CprE/SE 492 WEEKLY REPORT 03

2/25/24 – 3/30/24

Group number: 07

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

Client &/Advisor: Ashraf Gaffar

Team Members/Role:

Evan Hanson - Programmer

Ziyad Alqahtani - Researcher/Programmer

Wonjun Choi - Researcher/Programmer

Anirudh Ambore - Researcher/Programmer

Abdelrahman Mohamed - Researcher/Programmer

Mishari Alharbi - Researcher/Programmer

- **Weekly Summary**

- Contacted ETG to set up a GCP account for our team.
- Divided the cloud work into two subgroups.
- Getting started on learning GCP functionality.

- **Past week accomplishments**

- **Evan Hanson: Total hours: 8 Hours**

Worked with Ani in creating the flask application, this week we have imported now Two models allowing the user to see the results of two separate models, I also updated the home page, added functionality for running separate models and reformatted some of the user interface to improve the cohesiveness as per feedback from our peer review.

- **Anirudh Ambore:**

I worked with Evan to create a simple Flask application of our skin cancer detection program. It has an upload page to upload the image of the skin lesions and a results page to display the results based on the AI model's prediction. We were successfully able to export our model from Kaggle and use it to make predictions on our application. We have two working models -

InceptionV3 and MobileNetV3. We have been working on adding more pages to our application and improving the user interface. **Total hours: 10 Hours**

- **Abdelrahman Mohamed:** Researched GCP services and features to know which ones we will be using for our project, and making sure we don't use more services than we need as we do not know the costs of the services yet. Also, once we get the account set up by the ETG we will start deploying our AI model there. **Total hours: 8 Hours**
- **Ziyad Alqahtani:** Throughout the week, my primary focus was on two essential tasks: understanding the deployment process of our AI model on Google Cloud Platform (GCP) alongside my partners Mishari, Abdelrahman and preparing for the midterm presentation. To prepare for the GCP deployment, we created personal account to practice the procedures before implementing them on our team account. We focused on learning activities to familiarize ourselves with GCP's services and functionalities relevant to AI model deployment. Additionally, we conducted thorough research on best practices for deploying AI models on GCP, documenting key findings for future reference. Also, I dedicated time to preparing for the midterm presentation by collaborating with team members to gather and organize content, and drafting slides and visual aids. **Total hours: 10 hours.**
- **Mishari Alharbi:** Contacted ETG to create a GCP account. Researched about GCP services and finished setting up a personal GCP account as a mockup. **Total hours: 10 hours.**
- **Wonjun Choi:** I have previously completed configuring several AWS services after the EC2 setup. I have set up an S3 bucket, configured an API gateway to create an entry point for our application's API, and am now working on integrating AWS Lambda with this setup. **Total hours: 10 hours.**

- **Pending issues**

- Connect Working Flask Application to cloud (GCP & AWS)
- Convincing ETG to create a GCP account for our team since they told us that they have already created an AWS account for our team. However, our client asked us to deploy the model on both AWS and GCP.

- **Plans for the upcoming week**

- Getting our GCP account set up from ETG.
- Finalize our GCP learning process to start working on the team account.
- Deploy the model to the AWS cloud.

- **Midterm Feedback**

- Summarize the feedback you received (both written and verbal)?
 - Team 2 appreciated the design of our application's main pages but they felt that it would feel more complete with more pages added and a more user friendly interface. They were particularly impressed by the AI models we trained and used in our application to detect skin cancer from images uploaded by users.
- Describe any new insights your team generated based on this feedback.
 - We realized that we will need to focus more on the frontend so that people who are not already familiar with the project will feel comfortable and guided through the process of uploading images and using the detection AI.
- What steps are you taking based on the feedback?
 - We will have team meetings to plan and discuss what will need to be done.
 - We are going to assign each team member with a task to work on for our application.
 - We will demo the application among each other and our advisor to come up with more improvements