

## **Week 2 Meeting summary**

### **Quick recap**

The team met to discuss their machine learning project involving image classification and bias analysis. They divided up the workload, with Aidan handling the TensorFlow portion and converting images to tensors using a pre-trained convolutional neural network, while Alexander agreed to work on the decision tree and KNN modeling. The team discussed GitHub repository structure requirements and agreed to focus on completing the coding before Wednesday's deadline, after which they would begin writing the paper. They also addressed concerns about their computers' capabilities to handle the large image dataset and discussed using Google Colab as an alternative. The team acknowledged the tight timeline with the project due on February 11th and a presentation scheduled for Thursday, while also noting they would need to complete a personal reflection and reading quiz.

### **Next steps**

- Aidan: Convert images into tensors using a pre-trained convolutional neural network and extract embeddings for modeling
- Alexander: Work on the decision tree model after embeddings are ready
- Chijioke: Work on the K-Nearest Neighbors (K&N) model
- All team members: Create visualizations for both models, including performance metrics (confusion matrices, true/false positives/negatives, etc.)
- All team members: Store true labels before prediction to enable analysis of prediction accuracy by race and gender
- Brittany ([bmf3m@mtmail.mtsu.edu](mailto:bmf3m@mtmail.mtsu.edu)): Work on earlier coding tasks before the TensorFlow portion
- All team members: Commit and push code changes to the correct location in the GitHub repository under their respective last name folders
- All team members: Decide on writing assignments for the paper on Wednesday
- Aidan: Put together presentation slides for Thursday's presentation if needed
- All team members: Complete personal reflection and reading quiz by February 11th
- All team members: Check project submission through Turnitin before final submission

- All team members: Work on code and documentation until Thursday, then focus on presentation preparation

## **Summary**

### **Informal Team Check-in Meeting**

The team discussed meeting notes and plans, with Alexander confirming he had read them. The conversation was informal, with participants discussing weather impacts and scheduling constraints. The meeting appeared to be a check-in to ensure all participants were present and connected, with no substantial decisions or action items taken.

### **TensorFlow Challenges and Alternatives**

The group discussed technical challenges with running TensorFlow on certain computers, with one participant experiencing system shutdowns. Chijioke suggested using Google Colab as an alternative, which Aidan and Alexander confirmed could be a helpful solution. Alexander offered to assist with modeling, particularly with decision tree classifiers and K-Nearest Neighbors, and Aidan expressed a preference for using a simple decision tree model that would be easier to explain.

### **Image Classification and Decision Tree**

Aidan will handle the image classification task by converting images to tensors and using a pre-trained convolutional neural network to extract embeddings, which will be used in the decision tree. Alexander will work on the decision tree and potentially the K&N algorithm if time permits. Chijioke offered to take on the K&N task instead of Alexander. Visualizations will be needed for both classification tasks.

### **Machine Learning Model Visualization Planning**

The team discussed creating visualizations to analyze the performance of a machine learning model, focusing on true positives, false positives, true negatives, and false negatives. Aidan suggested storing true labels before predictions to assess model accuracy across different categories like race and gender. Alexander proposed using a visualization similar to a previous semester's project, which includes true and false positives for each image. The group acknowledged the need for significant computing power, with Aidan offering to assist if anyone encounters memory or processing issues. They also briefly touched on the importance of reviewing the GitHub repository, but no specific action was taken.

### **Code Submission and Repository Guidelines**

The team discussed code submission procedures, with Aidan explaining that each team member should create a folder with their last name under the code folder and upload Jupyter Notebooks or Google Colab files there. Aidan provided guidance on using GitHub desktop application for Windows and Mac users, and explained how to access data files by using the correct file path syntax. Brittany expressed intent to work on the project the following day, and Aidan offered support for anyone needing help with repository cloning or committing changes.

### **Project Workload and Deadline Planning**

The team discussed workload distribution for a project paper, with one member offering to take on more writing to balance coding responsibilities. They agreed that all team members would contribute to both writing and coding, despite different skill levels. The group also addressed a tight deadline of February 11th at 11:59 PM for group results, with plans to work on coding and modeling the following day. Finally, they noted an issue with uploading large image files to GitHub from Kaggle, which needed to be resolved.

### **Project Progress and Deadline Planning**

The team discussed their project progress and upcoming deadlines, including a final project upload, reading quiz, and personal reflection due Wednesday. Aidan explained that they are working with a large dataset containing image files, gender, race, and test usage information, but the actual training and testing images are too large to upload to GitHub. They agreed to focus on completing the code and documentation before Thursday's presentation, with Aidan offering to create presentation slides if needed. The team also discussed using Turnitin for plagiarism detection when submitting their final project.