As a member of the project team, my responsibility involved working on Component 3 - frame extraction and recognition. I implemented various tasks to ensure a seamless and efficient workflow. One of my major contributions was setting up logging to capture and analyze any errors encountered during the project setup on AWS. This helped us to quickly resolve any issues and keep the project on track.

My main focus was on the face recognition event handler, which was responsible for processing videos triggered by the object create event. Using ffmpeg, I efficiently divided the video into frames, which were then stored in the temporary folder as Lambda has write access only to the tmp folder. I then utilized the face recognition library to detect faces among the frames, with optimized processing time, due to the loop-breaking logic that stops the processing once the first match is found. This helped to avoid processing the remaining frames, resulting in quicker processing time.

To retrieve the academic information of the identified person, I queried DynamoDB, based on the name of the identified face. I then wrote the information into a CSV file, which was stored in the S3 bucket for future reference.

In conclusion, my contributions to the project helped in achieving an efficient and optimized workflow, with the quick and accurate processing of videos, resulting in the successful completion of Component 3.

As part of my contribution to the project, I have actively participated in testing and evaluating the implementation. To ensure the smooth running of the system and prevent errors, I set up various CloudWatch metrics that monitor the performance of the system.

CloudWatch is a monitoring service provided by AWS that allows us to collect and track metrics, collect and monitor log files, and set alarms. Using CloudWatch, I was able to set up custom metrics that track the performance of our system, such as the number of successful and failed invocations of the Lambda function, the duration of the function, and the number of DynamoDB queries made.