Individual Contribution Report

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Personal contribution to group project

1. Research together with the team on the background subtraction on both mog2 and knn for intruder detection module, and come out with the solution and code implementation with the other team members.

2. Research together with the team on different face recognition methods.

3. Integrated each individual module into one final package with other team members and performed final testing together.

4. Refactor the codes for better structures and readability.

What I have learnt

1. Learned How to use opencv in various ways, and detailed implementations and algorithms being used on its internal functions. And different ways of face recognition, and the details of related techniques like MTCNN, Dlib, Haar Cascade etc.

2. Through this capstone project, it also helps me to connect all the technical dots I learnt in previous semesters and sharpen my understandings and skillsets and on those techniques.

3. I also learned how to build an AI project from scratch and how to choose the techniques properly, and the integration of different modules.

How I can apply the knowledge and skills in other situations

1. The intruder detection and face recognition could be applied in my workplace in various ways, like monitoring server room, confidential document storage room.
   Those can be used to help company to build a system to recognize strangers, authorize employee with face id in restricted areas or rooms, trigger alert when violations got detected etc.

2. The technical experiences on developing this project with traditional machine learning techniques like KNN, MLP, Logistic Regression and SVM, and also the usage of tensorflow and keras while using deeplearning could be also applied in my future AI projects

3. The project experiences I obtained through the whole process, like how to start an AI project from scratch and how to choose proper techniques among all the options. Those could also be applied in my future AI projects.