

Problem Statements for SE Hackathon

- 1) At present there is no platform to connect students & staff all over India. A platform/portal where students could put up their projects, share their problems, contribute to projects, help in academics, suggest new ideas, just come together for any possible work. This will help them for all over development, inform them about current advances in curriculum's, etc. You know you always wanted to ask some question in the lecture but you were shy or were afraid because you thought the question might be stupid or your friends might laugh at you. Could we get rid of this problem as well?
- 2) A portal needs to be developed to facilitate district collectors to upload the district specific problems, projects etc. The portal should be accessible to all the institutes so that the students can select the problems as their project work and submit solutions in the form of a report. The portal should have a provision for online interaction between district Authorities (respective department officials) and the concerned student group/Institute. Additional features will be appreciated.
- 3) University Services App: All in one app where we can have complete smart services for university related to cleanliness, lost & found, canteen orders, event notifications, etc. You think standing in the queue for ordering food and then waiting for the food to get ready is wasting time? Yeah me too. How if we could just order the food after (after the lectures/before reaching the canteen) itself and the food gets ready before you get there. So, you've found an earphone and not sure where you're supposed to report it? Found dirt in your classroom and don't know the appropriate authority to report? Could we just directly report this in the app and the appropriate authority will take care of the situation.
- 4) SOS for Women Safety: A system should be developed to tackle problems related to women safety. The users of the system should be authenticated while one time registration to maintain a fool proof system (possibly AADHAR verification). It should consist of a one time set up which will allow to register up to 7 numbers as emergency contact. Later a woman in distress shouldn't have to locate the app to be able to avail its facilities (How you

innovate is up to you). A consolidated report with the person's location, photograph clicked from the front and the back camera, surrounding voice will be sent to five numbers registered. Additional features will be appreciated.

5) Posture Correction

6) Create a platform for training, labeling and deploying and retraining image classification models. Following are the expected features to be deployed:

Train a model(s) that classifies images based on the dataset provided.

Dataset: <https://www.kaggle.com/puneet6060/intel-image-classification>

Create a UI that can run inference using the model trained above on 128 unseen and unlabeled images uploaded at the same time. Once inference is completed, the UI should then be able to visualize these images and their predictions including the confidence score and provide other metrics as appropriate.

The UI should have the functionality to change the labels of images that are wrong, add them to a database and run training again. Optionally, the UI should have an option to change the parameters of training. Parameters could be learning rate, number of filters, filter size etc. The newly trained model should be available for use by the UI to run another round of inference.