DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VIII Semester Project

MONTHLY PROGRESS REPORT - I

Batch No.	**35**	
Title of the project:	**PICTURE REGENERATION USING GENERATIVE MODELS**	
Team members:	**Abhijith C.**	**1MV14CS004**
	Raghava G. Dhanya	**1MV14CS077**
	Shashank S.	**1MV14CS131**
Name of the Guide	**Sushila Shidnal**	
Duration	**From sometime to sometime**	

Details Of Work Carried Out:

Under Basic GAN, we implemented the DCGAN architecture from Alec Radford *et al*[1]. We were able to reproduce the results on the MNIST dataset and on facial images with a high degree of visual accuracy. The training took around 30 hours to complete on a modest home computer.

Figure 1: GAN output after 40000 epochs

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[1] Alec Radford, Luke Metz, and Soumith Chintala. Unsupervised representation learning with deep convolutional generative adversarial networks. CoRR, abs/1511.06434, 2015.

Time-line:

[Completed] Feb Week 3: Basic GAN
Implement a vanilla GAN with MNIST data.

[Completed] Feb Week 4: Basic CapsNet
Implement a CapsNet Classifier on MNIST data.

Mar Week 3: Discriminator using CapsNet
Implement a binary CapsNet Classifier and train it as discriminator.

Mar Week 4: GAN with CapsNet Discriminator
Plug the CapsNet discriminator to GAN.

Apr Week 1: Generator using CapsNet
Try to implement CapsNet based generator.

Apr Week 2: Fully CapsNet based GAN
Plug the CapsNet based generator into GAN to create a fully CapsNet based GAN.

Apr Week 3: Training and testing
Train and test the model on face dataset.

Apr Week 4: Compare results and continue testing
Compare the resulting model with current state of the art models.

May Week 1: Optimize the model
Tune the hyper-parameters to improve the model.

May Week 2: Train final model and start work on GUI
Train the final model for face completion and start working on GUI front-end.

Head of the Department

Project Guide **Project Coordinator**