Half-Yearly Progress Report for Jan-May/Jul-Nov 2020

Data Sheet for M.S Scholars

Name: **Arti Keshari**

Registration No: **CS19S008**

Department: **Computer Science and Engineering**

Date of Joining: **July 2019**

Specialization / Stream: **Computer Vision**

Area of Research work: **Text to Image Generation**

Category of Admission: HTRA
Guide:
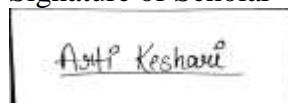
Co-Guide(s):   **Prof. Sukhendu Das**

Date of GTC meetings:

Description	Event	Date
1ˢᵗ GTC meeting	Research Scholar will have a Mid-Term Review meeting. GTC may recommend on continuation of HTRA.	1.5 years
2ⁿᵈ GTC meeting	Seminar	
3ʳᵈ GTC meeting	Submission of Synopsis	1 month before thesis submission

Details of Course work

S.No	Course No.	Course Title	Sem/Year	Credits	Grade
Core Courses					
1	CS5691	Pattern Recognition and Machine Learning	01	15	B
2	CS6015	Linear Algebra and Random Processes	01	12	B
3	CS6350	Computer Vision	01	12	S
Elective Courses					
4	CS6730	Probabilistic Graphical Model	02	12	C
5	EE5175	Image Signal Processing	02	12	C
6	CS6910	Fundamental of Deep Learning	02	12	Awaited
Compulsory Courses / Optional Courses					
7	ID6021	Introduction to Research	01	0	P
8	ID6020	Introduction to Research(Institute Module)	01	0	P

Signature of Scholar

Arti Keshari

Signature of Guide

Signature of Co-Guide 1

Signature of Co-Guide 2

Contents

i) Title of Research Work:
- **Text to Image Synthesis**

ii) Problem Definition / Research Objectives:
- **Image captioning is a widely studied area in the computer vision field. In which the machine learns how to summarize an image in a single sentence. Text to image generation is the reverse process, in which the machine learns to generate an imaginary image using a given caption. This is a less explored research area, so the results are not promising till date. My research objective is to improve existing work by modifying the techniques and adding newer architecture.**

iii) Summary of Work Done before Review (From the date of admission till now)
- **First, two-semester was packed with seven courses (including Introduction to Research), and figuring out my research interest. In the third semester, I started reading papers and hands on corresponding codes. I have read about 25+ papers related to Text to Image Generation, Text to Video Generation, Image-to-Image generation, Style transfer GAN, Image to Video Generation, and few basic concepts.**

iv) Work Done During Review (Odd / Even Semester 2020)
- **I ran a few codes to regenerate the current results. Also, learn how to debug codes.**

v) Issues affecting Research Progress, if any
- **Since the area is less explored and needs a high computational machine, it is tedious to find a correct path.**

vi) Future Plans, with proposed timeline
- **I am planning to work on the attention model for Text to Image generation. For this purpose, I will be using AttnGAN, CP-GAN, and DFGAN models mainly. And try to improve results by incorporating object attended model.**