

1. **Dr. Chetan Arora Sir** is one of the famous personality in the field of computer vision. Like every scholar it will be very proud moment for me if I will be a part of vision group at IIT Dehi. In the field of health care and automation (Cancer Detection, Cognitive Load estimation) using DNN, his contribution is remarkable. But if we use QCNN (Image Data) or QSVM (CSV/JSON data) for feature extraction and feature selection for better accuracy measure over traditional ML methods. Is it always outperforming the Traditional ML approaches? To answer this question, I want a research platform where I can simulate the real time data for better understanding the physical mapping of Data and Quantum Algorithms. I already have simulated some QML code kept in my GitHub, I will definitely share the links as evidence of my work.

[https://github.com/Das-Soumen-CS/Cognitive\\_Load\\_Assessment/blob/master/SOP%20GSR.pdf](https://github.com/Das-Soumen-CS/Cognitive_Load_Assessment/blob/master/SOP%20GSR.pdf)

[https://github.com/Das-Soumen-CS/Cognitive\\_Load\\_Assessment](https://github.com/Das-Soumen-CS/Cognitive_Load_Assessment)

<https://github.com/Das-Soumen-CS/ML-DL>

<https://github.com/Das-Soumen-CS/CS-432-632-Reinforement-Learning>

2. I am also interested to work under **Dr. Huzur Saran sir or Venkata Koppula sir**. Bharti School of Telecommunication Technology and Management is one of my favourite schools because I am interested in QKD based application for trusted communication among two parties by ensuring existence of eavesdroppers as a Man in Middle Attack. The Detailed work (BB84, QKD) and SOP on QUILA (Quantum internet) I share below. I am also interested in EEG, ECG and GSR based Application which provides by this school (Dr. Tapan Gandhi sir, Dr. Lalan Kumar Sir

QKD -BB84

[https://github.com/Das-Soumen-CS/QKD\\_Crypto/blob/main/SOP\\_QUila.pdf](https://github.com/Das-Soumen-CS/QKD_Crypto/blob/main/SOP_QUila.pdf)

[https://github.com/Das-Soumen-CS/QKD\\_Crypto/blob/main/QBER\\_BB84.ipynb](https://github.com/Das-Soumen-CS/QKD_Crypto/blob/main/QBER_BB84.ipynb)

[https://github.com/Das-Soumen-CS/QKD\\_Crypto](https://github.com/Das-Soumen-CS/QKD_Crypto)

EEG, GSR (Cognitive Load Estimation for the Blind Child using GSR)

[https://github.com/Das-Soumen-CS/Cognitive\\_Load\\_Assessment](https://github.com/Das-Soumen-CS/Cognitive_Load_Assessment)

3. I am also interested pursue my PhD under **Dr. Vireshwar Kumar Sir**. Earlier for a Project Position I have applied under sir's guidance and appeared for the interview. Sir is currently working on Adversarial Machine Learning and Applied Cryptography. I am very much interested to apply the concept of DNN to retrieve the meaningful information (information leakage) as a side channel Analysis of Mathematical modelling of any cryptographic algorithm.

[https://github.com/Das-Soumen-CS/Programming-Mind/blob/master/Casear\\_Cipher.png](https://github.com/Das-Soumen-CS/Programming-Mind/blob/master/Casear_Cipher.png)

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