**CPS685 Pattern Recognition and Data Mining**

**Homework week 1**

**1B:**

**Generalization** : My bank after being a customer with them for more than a year and using their basic credit card, they offered me to upgrade my credit card and asked me to choose between the offered cards, which were based on my spending patterns they have collected from my previous credit card purchases and the cards suggested had rewards programs on spends on online purchases on platforms like Amazon and Flipkart and the other offered was specifically on fuel spends.

**Association and Correlation**: After recently moving to Mount Pleasant, I found that while I am shopping for groceries, I always buy bread, milk and eggs together from the supermarket on weekly basis.

**Classification**: Call Spam detector like Truecaller which I have in past is a very useful tool as it classifies the callers as spam based on the recent calling activity and also by user explicitly classifying them as a spam which helped me in ignoring spam calls and only attend important unknown callers while I was looking for a job change

**Cluster Analysis**: While pursuing B.Tech, We were asked to choose our minors and we several students from different sections of Computer Science departments were then again put into a secondary section which was based on the minors we have chosen, any student from any primary section(which were in fact created based on our performance to keep overall average same through out the department) can choose any minor so it was again based on our minor we were again clustered into unique secondary section.

**Outlier Analysis**: My credit card company always contact me for the purchases that I make online if that is a direct payment as I usually use my credit card if I have to purchase something on an EMI but sometimes I purchase electronics goods like when purchased my headphones 2 months before on full swipe which then I have verify with my bank after making to ensure that they don’t mark it as fraudulent transaction, but these are not my usual purchasing habit online.