**Module 20 Individual Self-Assessment**

For the Final Project of the UCB Bootcamp, we performed the Instacart study on its Products and Customers and help answer some questions such as –

* Top products offered,
* Lowest performing products
* Active customers by age, income, etc.

This will help Instacart and its vendors to boost sales and overall revenue. Machine learning models such as Deep learning Neural Networks was used for predicting Product Reordering probabilities and K-Means algorithms for Product and Customer Segmentation. We achieved an accuracy of ~70.5% with the models trying to predict Product Reordering probabilities and could successfully cluster Customers and Products into 4 groups for further analysis.

As a team member, I was involved with the team in finding a topic that we were interested to work together on and finalizing datasets for the decided topic at hand. As the project progressed, we distributed our work amongst ourselves and I was responsible for the Machine Learning model for Product analysis. The challenging part for me was to get the Machine Learning model to perform with an accuracy greater than 65%, given the size and complexity of the datasets. I discussed these challenges with the team and used some of their points which helped me to clean data points and fine tune the model using additional layers and activation functions. For the Database, Presentation, GitHub and Tableau Dashboards, I collaborated with the team member in charge of those deliverables to understand the design and raised my concerns or suggestions during team meetings. We always performed peer reviews so we could find any issues and refine each other's work. For the presentation, I helped the team member to write the speaker notes and slide content for the Machine Learning segments. For me personally, my biggest challenge during the project was time management and adjusting to everyone's working pattern. It took me a few days to set the rhythm and then it got better for the rest of the project. It was a great learning experience working with the team as I had not connected with some of them before during the course duration.

We are a group of 5 team members, so understanding everyone’s expectations from the project and managing everyone’s schedules was hard, but we were patient and understanding towards each other. We made sure we helped each other out in case any team member had any conflicts or needed help with something. Our biggest challenge was probably finding the right datasets for the project which was time consuming. The biggest lesson from this project was probably that we could have found datasets first and then decided on the analysis we could perform on them. We mostly communicated via Slack, Zoom and group texts and was typically easy to get in touch with everyone. However, there had been instances when a team member was stuck at work so we would either reschedule or send out the meeting minutes to the team member for him/her to catch up. I can say that our biggest strength as a group was that everyone was co-operative, helpful, and open to suggestions from one another. There were some compromises made along the way, but all major project decisions were taken with agreement with the group members. It was a great learning experience for me personally and would be happy to collaborate with them again in the future.