**DATA643: Recommender System**

**Final Project Proposal**

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* **Overview**

As supply chain management and retail tech are growing at a faster pace, maintaining a log and predicting customer’s next purchase is a highly valuable use case for a Data science student. Leveraging the skills and coding techniques we learnt in DATA643, our group wants to develop a recommender system that predicts the user’s next purchase, using Instacart market basket data. This project is officially declared as open source and open challenge by Instacart.com.

* **Data**

The dataset for project is a relational set of files describing customers' orders over time. The dataset is anonymized and contains a sample of over 3 million grocery orders from more than 200,000 Instacart users.

Source: <https://www.kaggle.com/c/instacart-market-basket-analysis/data>

* **Deliverables**

A github repository with data, code, interpretation, visualization to understand model.

* **Workflow**

1. Data preprocessing
2. Matrix Factorization
3. Evaluation
4. Optimization
5. Finalization of the model

* **Resources**

Advanced mathematical techniques, Spark distributed computing.

* **References**

<https://tech.instacart.com/3-million-instacart-orders-open-sourced-d40d29ead6f2>