**Project Proposal – CS 410, Fall 2021**

**Team Name –** RS4

**Team Members** –

1. Rudranil Debroy – rdebroy2
2. Shaleen Mehrotra – shaleen3 **(Captain)**
3. Shruti Kalia – skalia2
4. Sujan Das – sujan2
5. Sreyashi Das – das25

**Project Topic –** Free Topic **– IntelliReco (An intelligent recommendation system)**

1. Description
   * A recommendation system which will recommend consumer products comparing various product attributes as indicated by the user. The system will have a user interface enabling easy interaction with the system. The backend recommendation system will use some of the concepts which we have learnt in this course namely – Web Crawler, Data Cleaning, NLP Text Mining, Topic Extraction, Ranking, Cosine Similarity, Classifiers etc.
2. Task
   * Identify and collect data.
   * Data cleaning.
   * Building the recommender system.
   * Building the end user UI.
3. What makes this topic interesting?
   * This project helps us apply the concepts that we have learnt in this course. This intelligent recommendation system will reduce the time taken by the users to select an appropriate product based on his/her criteria.
4. Planned approach
   * Initial architectural design blueprint of the whole system.
   * Identifying the necessary data sources to be used. For e.g., Amazon Marketplace, Walmart Marketplace, etc.
   * Deal with a category/subcategory of products.
   * Web crawling of the identified marketplaces for the identified category/subcategory.
   * Text retrieval and cleaning.
   * Text mining, topic extraction, ranking, cosine similarity, classifiers etc.
   * For offline usage we may use a database.
   * Building the UI for end user interaction.
5. Tools and datasets to be used
   * React, HTML, JSON, VSCode, PyCharm, JQuery.
   * JSON product data feeds from the identified marketplaces.
6. Evaluation criteria
   * Manual user evaluation. Will try to build an automated one to measure the quality and productivity of the system.
7. Programming language
   * JavaScript, Python
8. Time needed
   * Approx. 120 person-hours.