Introduction (and motivation):-

With the almost-decade-recent boom in the use of various social media applications, the scope of various commercial activities (both direct and indirect) too, which utilize social media as a medium, has drastically increased. Instagram, consistently ranking amongst the most popular social media apps (and amongst apps having the highest number of currently active users), has facilitated brands to reach out to their potential customer-base in a variety of engaging and entertaining ways, which ultimately boosts their revenue. While ad campaigns have historically enjoyed success to a certain extent, they have always faced the barrier of deficit of utmost trust and confidence, especially if users have had bad experiences with products or services bought seeing ads in the past, or even heard their acquaintances and friends share such experiences. This causes a considerable hindrance in brands’ will to pool all of their money in ad campaigns on social media apps.

As already highlighted, with the tremendous increase in popularity of social media apps, brands have started utilizing the services of ‘influencers’ to reach their potential customers. most notably on Instagram, owing to its rich visual features and pleasant GUI, as well as the opportunity to create ‘content’ in various forms: through posts, reels, stories, live-streams, etc. As an average user spends a significant amount of time on social media, they are, in time, and once they have started actively following a bunch of popular accounts of these ‘influencers’ / ’content creators’, bound to regularly come across their content. This creates a very effective and sustainable connection between influencer and user. Capitalizing on this very fact, brands approach these influencers to promote their products and services, in return for remuneration. Since, various influencers appeal to different demograhics, interests, age groups, etc. of users, this spread of connectivity becomes a very effective thing which ensures that a tremendously greater number of social media users are exposed, through the content of these paid influencers, to the brand’s product, than the brand could have done on its own. This is termed as ‘influencer marketing’.

Through this type of marketing, consistently getting good returns and faithful customers, has created a hot interest in brands to push more and more of their products through these influencers. The only catch is: for smaller-scale brands and even bigger brands, it is not always feasible for them to hire mega popular celebrities and big household names, since they charge exorbitant fees for the most minimal promotion. This has led to an immense increase in the popularity and appeal of ‘micro-influencers’, influencers who have roughly between 5,000 to 100,000 Instagram followers. The chief reasons are that their advertising services can be obtained much more economically, while having the crucial advantage that such ‘micro’ or ‘small-scale’ influencers are usually more connected to and enjoy immense appeal among their dedicated userbase / user following. This is because they have historically posted a lot of content which the specific mixed-demographic of their users has consistently found engaging and entertaining. From a technical viewpoint, this means that their ‘engagment rate’ is always high and a vast majority of their followers regularly view their posts, reels and stories. Hence, these micro-influncers become an indispensible asset for brands since they can be extremely effective in the very likely case that a good chunk of their audience is a good match for a particular brand.

Naturally, since at this point, since there are millions of micro-influencers, it becomes a challenge for brands to find (and hire) the most optimal micro-influencers who have a high chance of making their products/services connect or ‘click’ with their follower base. This has led to an increase in the interest of designing recommender systems which can point brands towards suitable micro-influencers. One of the important factors to consider is: the visual congruence (i.e., the similarity in posts, reels and stories) between a brand account and an influencer account has been shown to be a good measure of compatibility between them. In other words, the more similar the visual resemblance is between an infleuncer’s content and a brand’s content, the more of a good fit that influencer is likely to be to promote that brand’s product. Moreover, determining the most important regions/objects/semantics of the post pictures of an influencer becomes invaluable in the influencer marketing use case, as it allows brands to understand the visual content that led to them being matched to certain influencers (after the recommender system has made its recommendations). Along with checking that appropriate visual content is being regularly posted to attract new followers and faithfully retain older ones, this information would also be immensely valuable to help the brand tailor their content as per what followers find appealing and hence, design optimal future marketing strategies and the type of content to post.