Amrita School of Computing
Department of Computer Science and Engineering

Minor Project: 19CSE495
(2020-2024 B.Tech CSE)

Problem Definition Document

I.   Project Title:

Multilevel attribute inference mechanism on attributed social networks

II.   Team members:

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III.   Abstract

In social networks, users possess hierarchical user attributes that serve as self-descriptive information. Attribute inference plays a crucial role in social networks for user classifications and targeted recommendations. However, current approaches mainly focus on the flat inference problem, leading to significant inconsistencies in multi-level tasks. This project addresses this issue by proposing a solution i.e., Multi-level Inference model, that takes into account the semantic hierarchy of user attributes. By considering the hierarchical structure, this approach aims to improve the accuracy and reliability of attribute inference, enabling more consistent and effective user classifications and targeted recommendations on social platforms.

Attribute inference is relevant because it enables social platforms to improve user experiences, provide personalized services, optimize platform operations, and drive targeted advertising, ultimately enhancing the value and effectiveness of social network platforms.
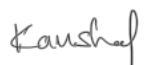
IV.   Motivation

The motivation behind this project is to address the limitations of existing approaches in attribute inference for user attributes in social networks. Currently, most methods focus on flat inference, disregarding the semantic hierarchy of user attributes

For example, consider a social networking platform where users have attributes related to their hobbies and interests. With single-level inference, the platform may only be able to infer broad categories such as "sports" or "music" based on user behavior. However, it may miss out on specific subcategories like "soccer" or "jazz music" that provide more accurate insights into user preferences.

In this case, multi-level inference becomes crucial. It allows the platform to infer attributes at different levels of granularity, considering the hierarchical structure. By capturing both broad and specific attributes, the platform can offer more precise recommendations and personalized experiences to users.

Students' Name and Signature

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