

Far from Home: Navigate Life Abroad with Confidence and Savings

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ABSTRACT: This study introduces Far from Home, an intelligent multilingual platform created to assist immigrants in managing the financial and social adjustments associated with settling in a new country. Many immigrants face difficulties locating trustworthy and affordable resources such as housing, budget-friendly grocery stores, transportation services, and suitable banking options. Such information is often dispersed across informal community channels, social groups, and language-specific networks, making it challenging to access efficiently.

The proposed platform applies techniques from Natural Language Processing (NLP) and Generative Artificial Intelligence (AI) to analyse user-submitted cost-saving suggestions. The system automatically identifies important details, categorizes content into relevant topics, detects geographic references, translates information into multiple languages, and produces short, practical summaries that users can easily follow. In addition, a machine learning-based recommendation component delivers personalized suggestions tailored to individual user profiles, geographic location, and spending behaviour.

By integrating community-generated knowledge with automated organization, translation, and recommendation capabilities, the platform functions as a centralized and continuously evolving information resource. This approach enables immigrants to make more confident financial decisions, encourages collaboration among diverse cultural communities, and supports improved living conditions through cost-efficient practices.

KEYWORDS: Artificial Intelligence, Natural Language Processing, Personalized Recommendation Systems, Multilingual Communication, Immigrant Assistance Platforms, Cost Management, Community-Based Knowledge Systems

I. INTRODUCTION

Product Immigrants frequently encounter significant difficulties while adjusting to life in a new country, especially when trying to understand financial systems and manage everyday living costs. Essential information—such as reasonably priced housing, economical grocery options, efficient transportation methods, and suitable banking services—is often distributed across informal sources, community forums, and language-based networks. Because this knowledge is spread across multiple channels and may not be available in familiar languages, newcomers may overlook useful opportunities that could help reduce their expenses and simplify their transition.

This project presents Far From Home, an AI-powered platform developed to gather, structure, and personalize cost-saving information for immigrant communities. By utilizing Natural Language Processing (NLP) and Generative Artificial Intelligence, the system analyses tips shared by users to identify important details, organize them into meaningful categories, recognize associated geographic locations, translate content into different languages, and produce brief, easy-to-understand summaries. In addition, a machine learning-based recommendation module delivers customized suggestions based on individual user characteristics and their surrounding environment. Through the integration of community knowledge with automated intelligence, Far From Home seeks to create a multilingual and accessible support system that helps immigrants make better financial choices, minimize economic pressure, and feel more confident and connected within their new surroundings.

II. LITERATURE SURVEY

Recent studies show that Artificial Intelligence (AI) and Natural Language Processing (NLP) are playing an increasingly important role in making information easier to access and supporting personalized decision-making for different types of users, including immigrant communities. Many researchers have explored how Large Language Models (LLMs) can be used to build recommendation systems, while also pointing out key challenges such as ensuring fairness, handling large-scale data, designing effective prompts, and maintaining reliable performance across diverse user groups. These findings highlight the growing need for intelligent systems that can provide accurate and context-aware cost-saving guidance for individuals adjusting to unfamiliar economic and social environments.

The research paper “A Survey on Large Language Models for Recommendation” discusses the use of Large Language Models in recommendation systems and highlights major challenges such as prompt engineering, fairness, scalability, and maintaining accuracy across diverse user groups. However, the study also points out issues such as bias, hallucinations, and unreliable personalization, which can reduce the trustworthiness of AI-generated recommendations.[1]

The research paper “Human-Centered AI Applications for Canada’s Immigration Settlement” by I. Nejadgholi et al. explores how artificial intelligence can support immigrant communities by improving access to information, encouraging trust, and strengthening community engagement. While these approaches are effective in improving user experience, they often require significant manual effort and may struggle to scale efficiently across large populations.[2]

The research paper “Enhancing Conversations in Migrant Counseling Services” (2024) focuses on the role of AI in supporting migrant interactions through conversation summarization, knowledge extraction, and improved communication methods. Although useful for counseling environments, the system is mainly designed for controlled service settings and may not fully address large-scale community-driven platforms.[3]

In summary, existing studies demonstrate the potential of AI and Large Language Models in recommendation, communication, and immigrant support systems. However, there remains a gap in developing scalable, multilingual platforms that organize community-contributed cost-saving knowledge into structured, personalized recommendations. This gap is addressed by the proposed Far From Home system, which integrates multilingual processing, recommendation techniques, and automated summarization to deliver accessible and practical financial guidance for immigrants.

III. METHODOLOGY

The proposed Far From Home system follows a structured methodology to collect, process, and deliver cost-saving information for immigrants using Artificial Intelligence, Natural Language Processing, and recommendation techniques. The approach combines community knowledge with automated processing to create an accessible and reliable information platform.

The system begins by collecting data from multiple sources such as user-submitted tips, community discussions, and verified public resources. Users can provide information through text or voice inputs, allowing the platform to gather real-world experiences. The collected data is then cleaned and standardized through preprocessing steps such as text normalization, noise removal, speech-to-text conversion for voice inputs, and language detection to ensure consistency across multilingual content.

After preprocessing, Natural Language Processing techniques are used to analyze the data and transform it into structured information. The system extracts important details, categorizes content into topics such as housing, groceries, transportation, healthcare, and banking, and identifies location-related information. Summarization methods are applied to convert long inputs into short, clear insights, while translation processes ensure that content can be understood across different languages.

Once the information is structured, machine learning-based recommendation methods are used to deliver personalized suggestions to users. Profiles are created using factors such as user location, preferences, and previous interactions. The system matches relevant content to user needs and continuously improves its suggestions through feedback mechanisms. Finally, the personalized insights are displayed through an interactive interface, enabling users to access useful advice and contribute additional knowledge to support the community.

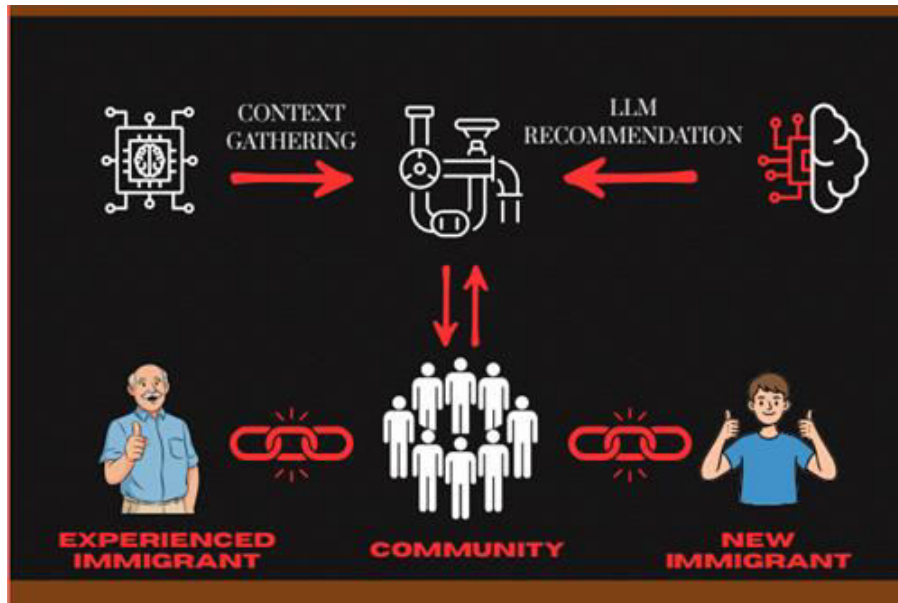


Fig 3.1 Far From Home Workflow

IV. SYSTEM ARCHITECTURE

The architecture of the Far From Home system is designed as a modular pipeline that integrates data collection, Natural Language Processing, machine learning analysis, and personalized recommendation delivery. The system converts user-submitted tips and queries into structured and useful cost-saving suggestions for immigrants.

The system architecture consists of a frontend interface, backend processing module, NLP pipeline, recommendation engine, and database storage module. The frontend, developed using Flask, allows users to submit tips, search for information, and view recommendations. The backend module receives user inputs and performs preprocessing tasks such as text cleaning, normalization, and language detection to support multilingual data.

The NLP pipeline applies machine learning models to analyse the processed text, classify topics, and extract important entities such as locations and prices. Summarization and translation models are used to generate short and understandable insights from longer inputs. The recommendation engine then matches the processed information with user profiles and location data to identify the most relevant suggestions.

The database module stores user submissions, processed data, and recommendation results in a secure SQLite database, which acts as the central knowledge repository. Finally, the personalized recommendations are displayed to users through the frontend interface. This modular architecture enables efficient data processing, multilingual support, and scalable delivery of community-based cost-saving information.

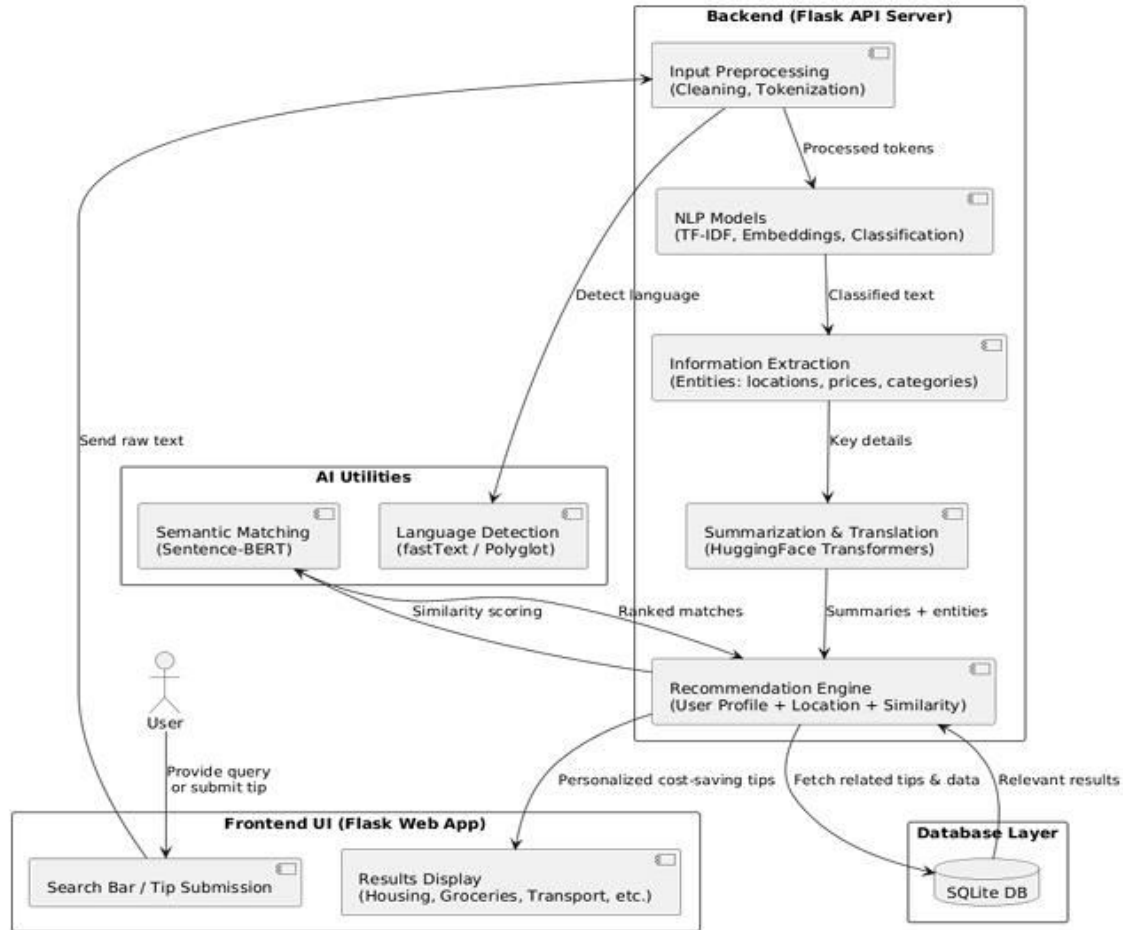


Fig 4.1 System Architecture

V. OUTPUT SCREENS

The Far From Home system provides a simple and user-friendly interface that allows users to share and access cost-saving information easily. The application begins with an account creation and login process, where new users can register and existing users can securely log in to access the platform.

After logging in, users are directed to the home page, where they can view a posts page containing all shared tips and information contributed by the community. Each post includes a title, selected category, and content, allowing users to quickly understand and explore useful cost-saving suggestions shared by others.

Users can also create their own posts through a simple input form. To create a post, the user enters a post title, selects an appropriate category, and adds the content describing their tip or experience. Once submitted, the post is stored and becomes available for other users to view and benefit from.

In addition to browsing posts, the system includes an AI assistant powered by a Retrieval-Augmented Generation (RAG) model. This assistant allows users to ask questions related to cost-saving topics. The system retrieves the top four most relevant posts from the database and uses them as context to generate accurate and helpful responses. The generated answers are then displayed to the user through the interface.

Overall, the system interface enables easy account management, post creation, community knowledge sharing, and intelligent query support, making it simple for users to access reliable and relevant cost-saving information..

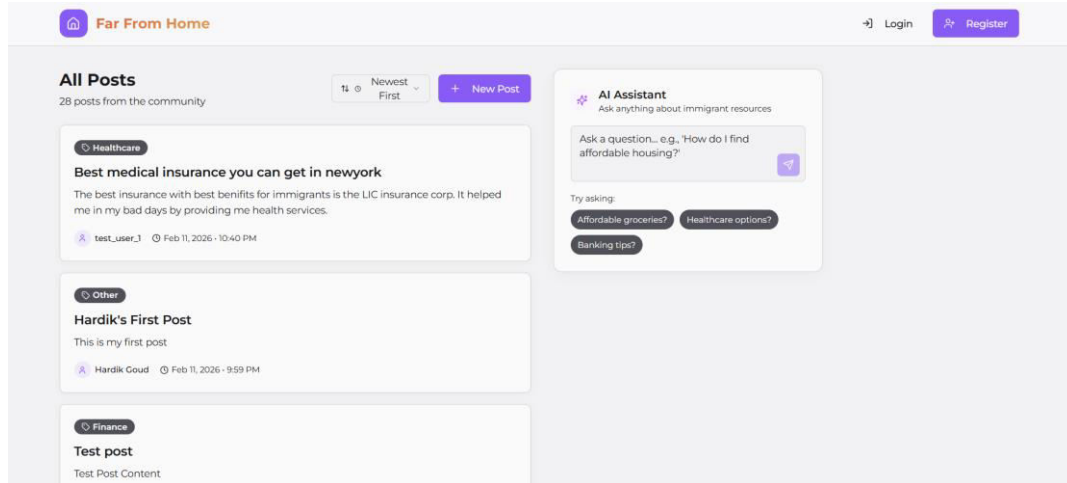
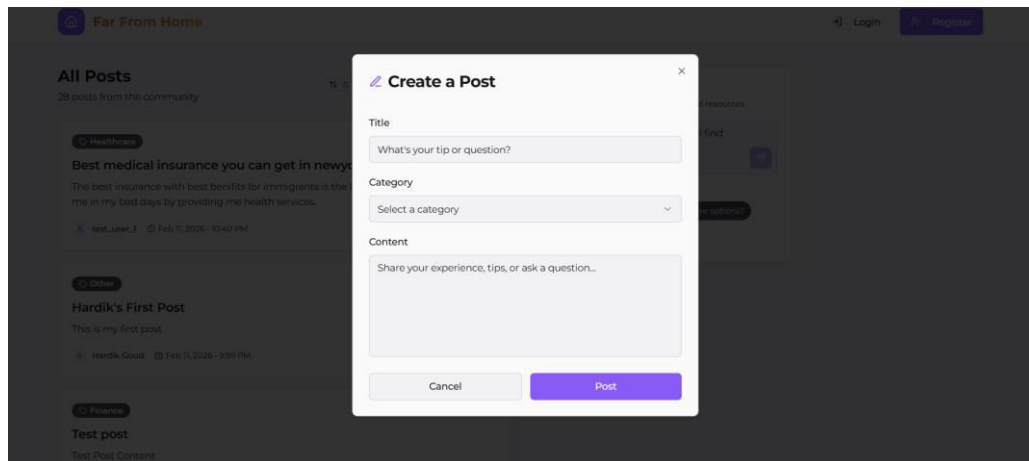


Fig 5.1 Far From Home Interface



5.2 Post Creation Page

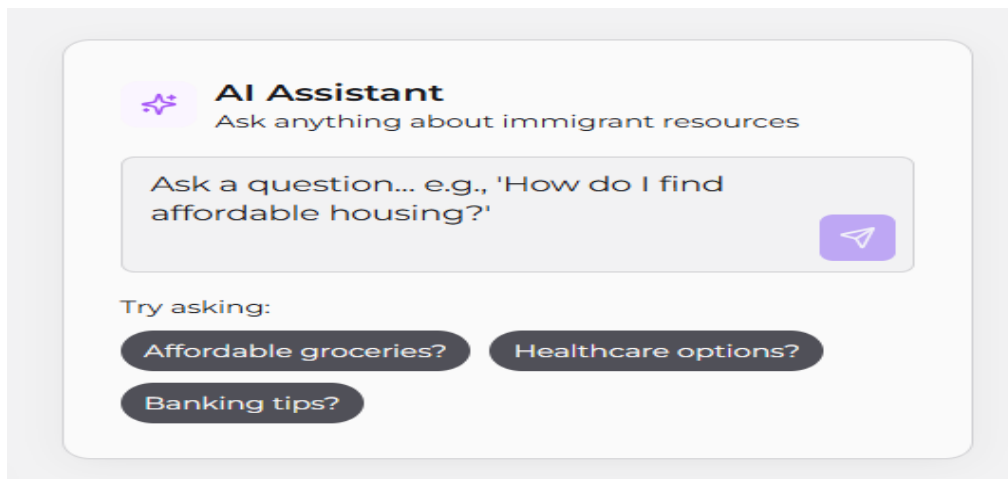


Fig 5.3 RAG Based Chat Bot

Volume 15, Issue 3, March 2026**| DOI: 10.15680/IJRSET.2026.1503330 |**

VI. CONCLUSION

The Far From Home project presents a practical community-driven platform designed to help immigrants easily access and share cost-saving information related to everyday needs such as housing, groceries, transportation, and essential services. The system provides a simple workflow where users can create accounts, log in, browse existing posts, and contribute their own categorized tips, creating a growing shared knowledge base. A key feature of the platform is the integration of a Retrieval-Augmented Generation (RAG) based AI assistant that answers user queries by retrieving the most relevant posts and generating meaningful responses from stored information. This approach reduces the effort required to manually search through multiple sources and improves the accessibility of useful knowledge within the community. Overall, the project demonstrates how combining user participation with intelligent retrieval techniques can create a reliable and organized support system that assists immigrants in adapting to new environments and making informed financial decisions.

VII. FUTURE SCOPE

In future developments, the Far From Home platform can be enhanced by incorporating advanced features that were proposed but not fully implemented in the current version. These improvements include adding multilingual capabilities with automatic translation to support users from different language backgrounds, implementing intelligent text summarization and information extraction to automatically identify key details such as locations and prices from user posts, and developing a personalized recommendation system that suggests relevant tips based on user preferences, location, and interaction history. Additional enhancements may involve supporting voice-based input through speech-to-text technology, integrating geolocation services to provide region-specific suggestions, and connecting the platform with verified external resources to improve the reliability of shared information. The AI assistant can also be improved by using more advanced language models, better ranking techniques, and expanded retrieval strategies to generate more accurate responses. By introducing these features, the platform can evolve into a more intelligent, scalable, and user-friendly system that delivers personalized, multilingual, and location-aware assistance to immigrant communities.

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