BlahBlahBot: Facilitating Conversation between Strangers using a Chatbot with ML-infused Personalized Topic Suggestion

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Problem Space

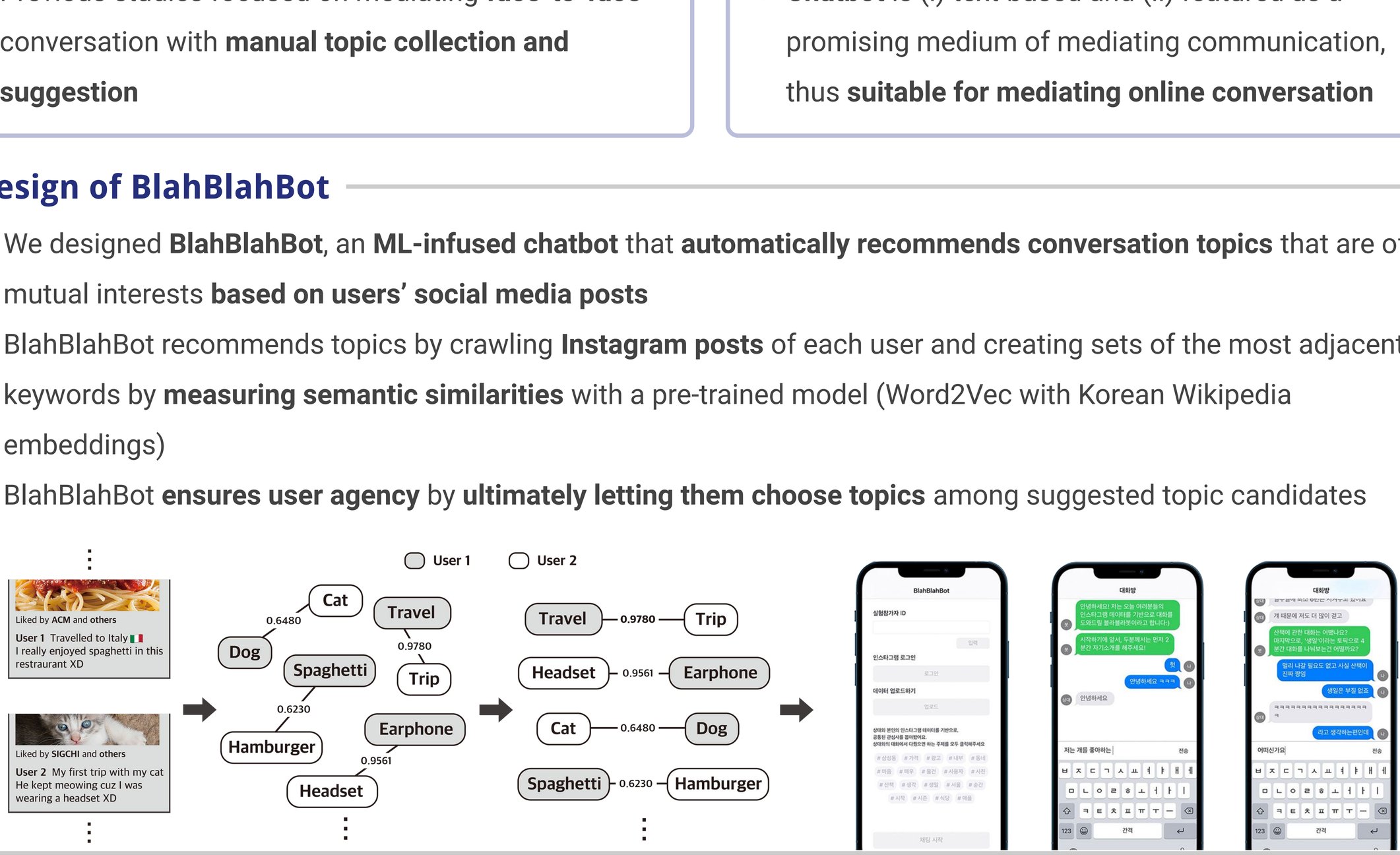
- It is often **difficult to initiate and maintain online conversation with strangers** due to the **lack of topics**
- Previous studies focused on mediating **face-to-face** conversation with **manual topic collection and suggestion**

Motivation

- **User-generated posts in social media** reflect the users' daily life interest
- **Chatbot** is (i) text-based and (ii) featured as a promising medium of mediating communication, thus **suitable for mediating online conversation**

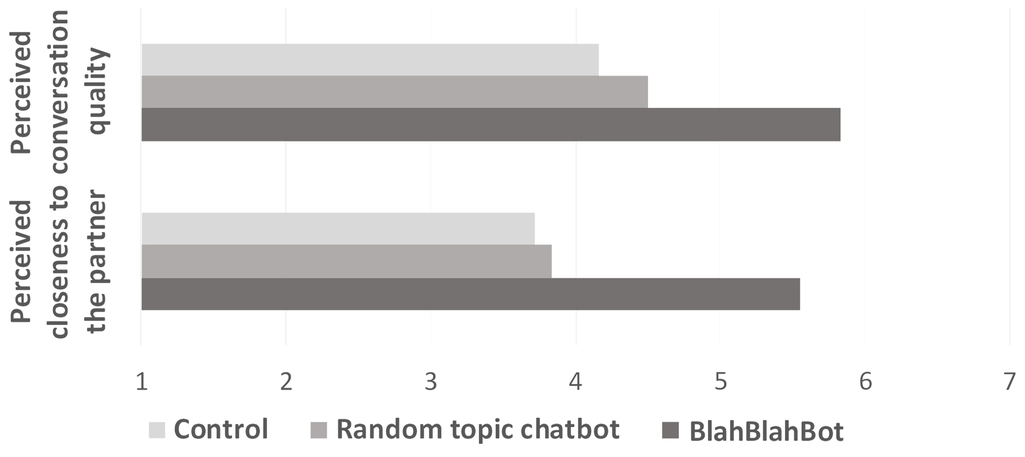
Design of BlahBlahBot

- We designed **BlahBlahBot**, an **ML-infused chatbot** that **automatically recommends conversation topics** that are of mutual interests **based on users' social media posts**
- BlahBlahBot recommends topics by crawling **Instagram posts** of each user and creating sets of the most adjacent keywords by **measuring semantic similarities** with a pre-trained model (Word2Vec with Korean Wikipedia embeddings)
- BlahBlahBot **ensures user agency** by **ultimately letting them choose topics** among suggested topic candidates



User Study & Result

- We ran a **between-subject user study** with 3 group: BlahBlahBot group, random topic suggestion group, and control group (N = 18; 30-minute conversation)
- BlahBlahBot showed the **highest conversation quality and closeness to the partner**



[Post-hoc survey on conversation quality (7-point)]

Metric	Self-reported cause of increase
Perceived conversation quality	1. Satisfaction on the suggested topics 2. Prevention of unwanted topics 3. Prioritization between common and mutually exclusive topics 4. Prior relief on the system
Perceived closeness to the partner	1. Time efficiency 2. Satisfaction on the suggested topics

[Post-hoc interview]

Future Works

- User study with more participants in terms of generalizability
- Further analysis with other social media platforms for generalizing the results (e.g., Facebook, Twitter)
- Further investigation when other communication methods (e.g., voice, photo) are also available along with the text