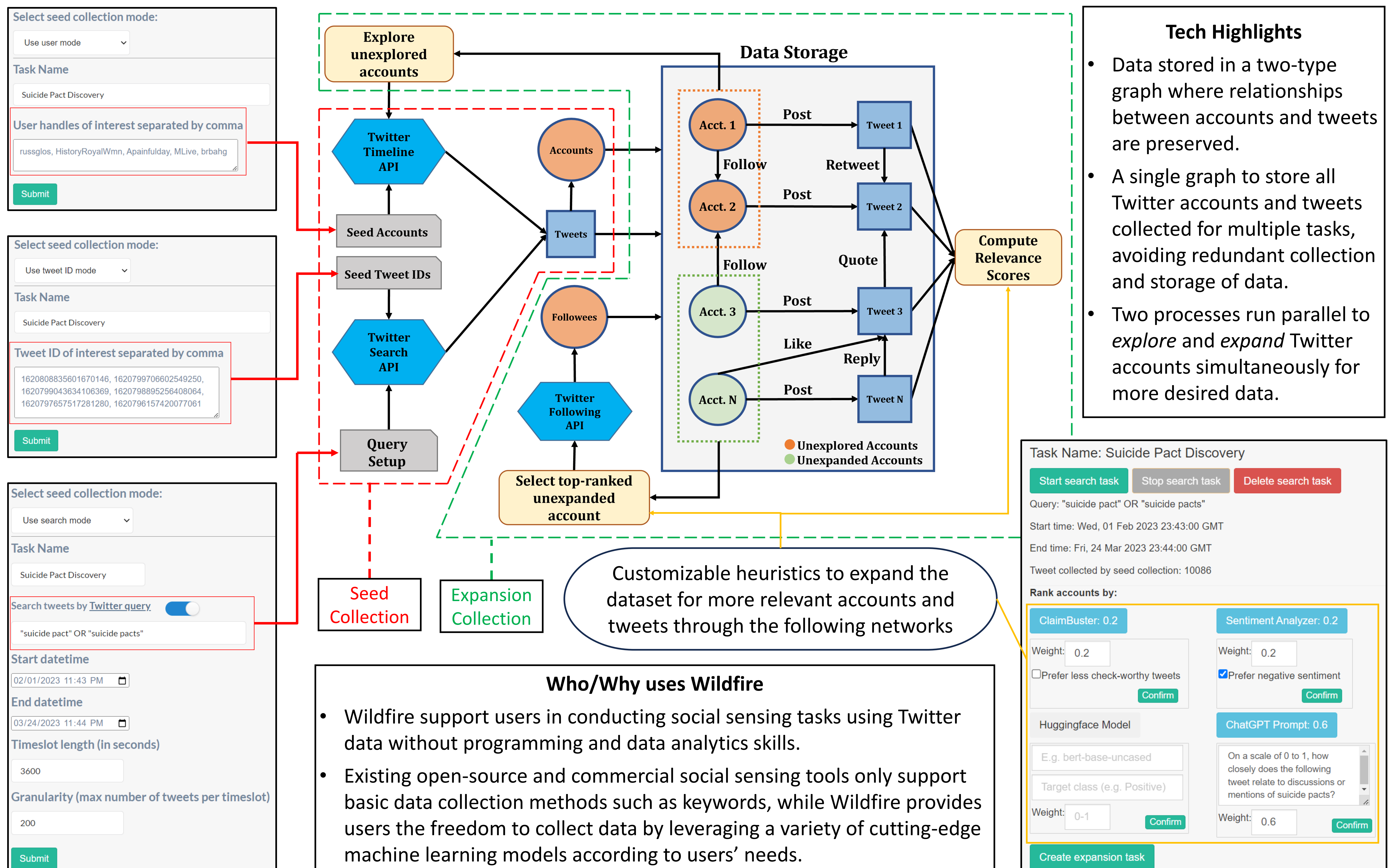# Wildfire: A Twitter Social Sensing Platform for Layperson
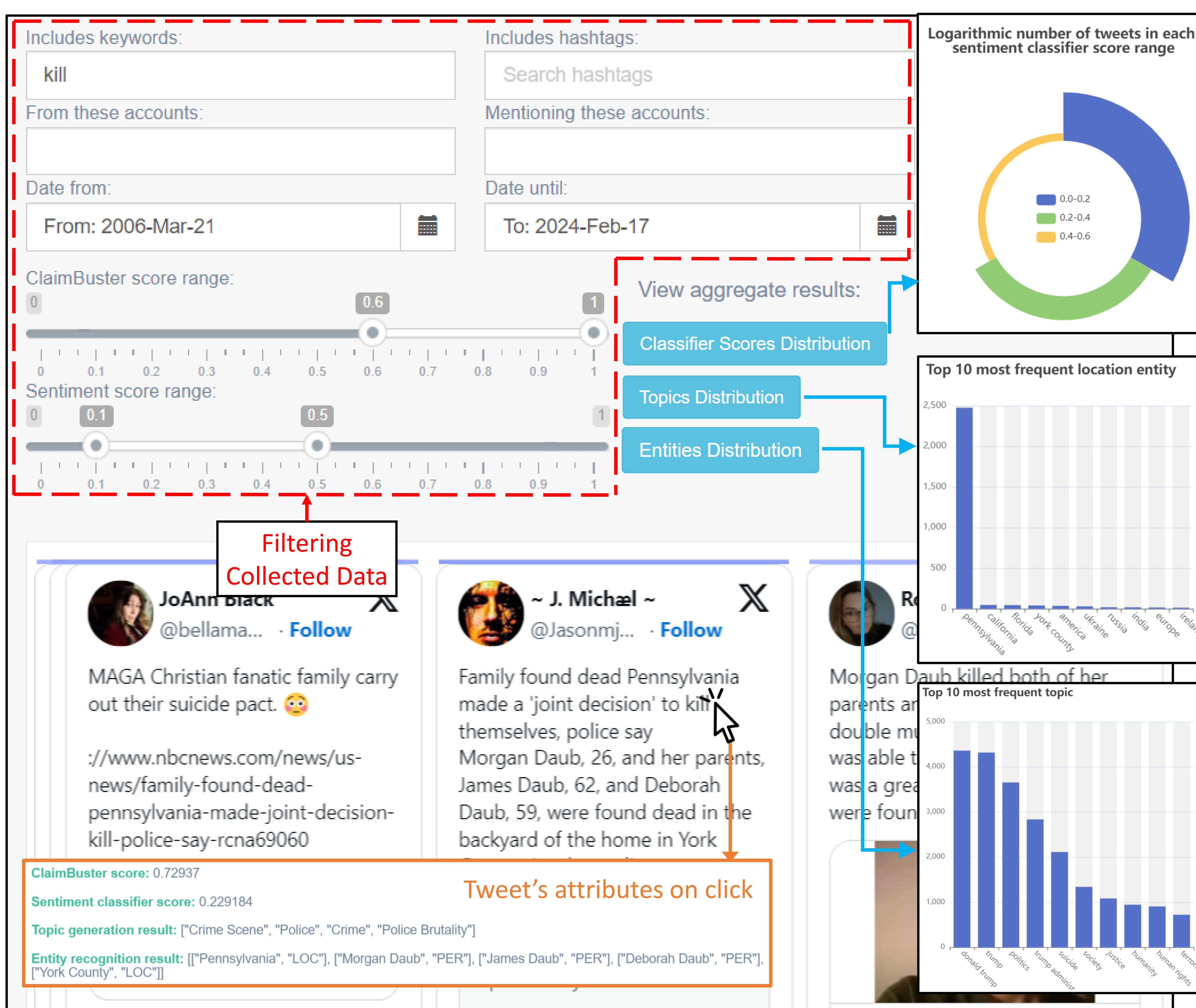
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https://idir.uta.edu/wildfire

User Interface & Data Collection Architecture

Tech Highlights
- Data stored in a two-type graph where relationships between accounts and tweets are preserved.
- A single graph to store all Twitter accounts and tweets collected for multiple tasks, avoiding redundant collection and storage of data.
- Two processes run parallel to *explore* and *expand* Twitter accounts simultaneously for more desired data.

Who/Why uses Wildfire
- Wildfire support users in conducting social sensing tasks using Twitter data without programming and data analytics skills.
- Existing open-source and commercial social sensing tools only support basic data collection methods such as keywords, while Wildfire provides users the freedom to collect data by leveraging a variety of cutting-edge machine learning models according to users' needs.

Data Analytics Interface

Use Cases

How people make suicide pacts on Twitter
- Seed collection: used "suicide pacts" as keyword and retrieved 10,953 tweets.
- Expansion collection: applied *Sentiment Analyzer* and *ChatGPT* in the ranking function. Additional 24,112 tweets and identified 8 accounts were retrieved within one hour.
- Results: 79 out of 100 tweet samples from the 411 high-score tweets were relevant to suicide by manually checking.

Identifying political polarization on social media
- Seed collection: used political keywords and retrieved 4,347 tweets.
- Expansion collection: applied the *politicalTweetBERT* in the ranking function. Additional 6,280 tweets were retrieved.
- Results: the high-scored tweets from the expansion collection were more relevant (67%) than those from the seed collection (48%) by manually comparing two random samples drawn from the two collections.