MOTIVATION: Social media sites like Twitter helps in spreading important information for patients in distress to reach out to prospective blood donors in a time bound manner. However such manual efforts are mostly inefficient due to the limited network of a user.

PROBLEM STATEMENT: Classification of emergency blood donation request (EBDR) and subsequent extraction of the related details regarding the user requirements can help individuals pair up with blood banks, hospitals, and individuals in a critically time-bound manner. We need an automated EBDR assessment tool that can identify such post on social media platforms.

**Research Goal**

**Motivation**

Social media sites like Twitter helps in spreading important information for patients in distress to reach out to prospective blood donors in a time bound manner. However such manual efforts are mostly inefficient due to the limited network of a user.

**Problem Statement**

Classification of emergency blood donation request (EBDR) and subsequent extraction of the related details regarding the user requirements can help individuals pair up with blood banks, hospitals, and individuals in a critically time-bound manner. We need an automated EBDR assessment tool that can identify such post on social media platforms.

**Automatic evaluation of EBDR from health posts on social media websites that will help medical agencies and authorities to reach out to patients in time-bound manner.**

**Crisis assessment and management through social media monitoring of medical emergency events.**

**Extraction of patient details, blood group, quantity and other related requirement statistics on the data corpus.**

**Table: Feature of tweets in EBDR dataset**

<table>
<thead>
<tr>
<th>Feature Category</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linguistic features (L)</strong></td>
<td>Unigram &amp; Bigram presence and count, TF-IDF vector</td>
</tr>
<tr>
<td><strong>User metadata (U)</strong></td>
<td>Retweet count, presence of source of posting, presence of place of posting, user friends count etc</td>
</tr>
<tr>
<td><strong>Textual metadata (T)</strong></td>
<td>Count of URL’s, hashtags, user mentions and special symbols</td>
</tr>
<tr>
<td><strong>Handcrafted features (H)</strong></td>
<td>Presence of name of reference contact, name of place of requirement, contact number etc</td>
</tr>
</tbody>
</table>

**Figure: Result comparison of feature category**

**Applications**

- Automatic evaluation of EBDR from health posts on social media websites that will help medical agencies and authorities to reach out to patients in time-bound manner.
- Crisis assessment and management through social media monitoring of medical emergency events
- Extraction of patient details, blood group, quantity and other related requirement statistics on the data corpus.

**Contributions**

- Creation of handcrafted annotated dataset pertaining to specification of emergency blood donation request. This dataset will encourage more research in this area.
- Feature modeling using four independent sets of tweet features: linguistic, handcrafted, user specific metadata and textual metadata.
- Determination of the most relevant set of auxiliary features for SVM based classification.
- Our model performs fairly well with an accuracy of 97.87%.