

Category	Feature Name (Acronym)	Proposed by us	WLink unique	Robust
Account-related	Gender (Gender)	[24]		✓
	Whether default WLink id is used (DefaultId)	✓	✓	
	Whether it has frequently logined place (FLPlace)	✓		
	Whether its posts has been blocked (PBlocked)	✓	✓	
	Whether it has real name (RName)	✓	✓	
	Whether it used RandomMsg (RandomMsg)	✓	✓	
	Whether it used LBS (LBS)	✓	✓	
	Whether it used Match (Match)	✓	✓	
	Number of bound bank cards (NBBC)	✓	✓	✓
	Number of groups (NG)	✓		
	Number of friends (NF)	[43]		
	Number of subscribed official accounts (NSOA)	✓	✓	
	Liveness of sending messages (LSM)	[27]		
	Liveness of receiving messages (LRM)	✓		
	Liveness of receiving group messages (LGM)	✓		
	Liveness of posting (LP)	[37]		
	Liveness of comments (LC)	[26]		
	Liveness of comments from friends (LCFF)	[39]		
	Friend requests-related	Number of friend requests (NFR)	[54]	
Number of friend requests in sleeping time (NFRS)		✓		
Fraction of friend requests in sleeping time (FFRS)		✓		
Number of friend requests sent from male (NFRFM)		✓		✓
Number of friend requests sent from female (NFRFF)		✓		✓
Number of friend requests sent to male (NFRTM)		✓		✓
Number of friend requests sent to female (NFRTF)		✓		✓
Number of unique IP addresses (NIP)		✓		✓
Number of unique cities based on IP addresses (NCity)		✓		✓
Number of unique channels (NChannel)		✓	✓	
Sum, mean, max, min, standard deviation and median of attribute whether the sender and the receiver have common friends (SumF, MeanF, MaxF, MinF, StdF, MedianF)		✓		✓
Number of request messages containing "I am" (NFRK)		✓	✓	
Fraction of request messages containing "I am" (FFRK)		✓	✓	
Sum, mean, max, min, std and median of probabilities of request message being malicious (SumP, MeanP, MaxP, MinP, StdP, MedianP)		✓	✓	✓
Similarity of request messages (SimRM)		✓	✓	

Table 2: The features used in our study.

Sender	The sender's ID
Receiver	The receiver's ID
Timestamp	The timestamp when the friend request is sent
IP	The sender's IP address
Channel	The channel uses to send the friend request
Message	The request message along with the request

Table 3: Fields in a friend request.

	Name	Description
1	Group	Via group members
2	ID	Via WLink ID
3	Number	Via phone number
4	NameCard	Via name card
5	QRCode	Via scanning QR code
6	LBS	Via location-based service
7	RandomMsg	Via random message service
8	Match	Via match service

Table 4: Channels of sending friend requests in WLink.

- **Stringhini et al.** extracts features including *Friend Number* (number of friends), *Messages Sent* (number of messages sent), *FF ratio* (number of friend requests that a user sent to the number of friends she has), *Friend Choice* (the total number of names among the profiles' friend to the number of distinct first names), *Message Similarity* (the similarity among the messages sent by a user), *URL ratio* (number of messages containing urls to the

number of messages). They then use Random Forest as their classifier.