Various types of follow links in Twitter:
- links for information gathering,
- links to celebrities from their fans,
- links for daily conversation with friends,
- links for participating public discussions,
- links by spammers, ... and more.

We propose classification axes for follow links
Requirements for good classification axes:
1. primitive
2. have clear intuitive meanings
3. independent from one another, and
4. can classify most typical types of follow links.

Our three axes for follow link classification
1. **User-orientation**: the follower is interested in the followee user itself, and it cannot be replaced with another user with very similar tweets.
2. **Content-orientation**: the follower is interested in specific topic, and no reason to follow the followee if she/he stops tweeting about the topic.
3. **Mutuality**: the follower expects to have mutual communication.

User-orientation and Content-orientation are not exclusive

**User-orientation**
I like BBC. It has to be BBC, not CNN nor FOX.

**Content-orientation**
I need business news.

Experiment
**Dataset**
1253 links collected by a questionnaire to 44 Twitter users on a crowdsourcing service.

Classifier Construction
1. SVM
2. decision tree

Classification Features
<table>
<thead>
<tr>
<th>category</th>
<th>features</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) followee</td>
<td>ratio of information lists/community lists including the followee, those listed in (B)</td>
</tr>
<tr>
<td>(B) follower</td>
<td>number of followees, followers, reciprocal follows, lists, reciprocal follower ratio, reciprocal followee ratio</td>
</tr>
<tr>
<td>(C) relation</td>
<td>number of lists including both followee and follower, reciprocity, frequency of replies, frequency of RT</td>
</tr>
</tbody>
</table>

Result

<table>
<thead>
<tr>
<th>features used</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>A+B</th>
<th>A+C</th>
<th>B+C</th>
<th>A+B+C</th>
<th>majority</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 binary SVMs combined</td>
<td>30.97</td>
<td>36.95</td>
<td>33.52</td>
<td>36.95</td>
<td>34.08</td>
<td>50.20</td>
<td>42.70</td>
<td>30.63</td>
</tr>
<tr>
<td>3 binary decision trees combined</td>
<td>25.30</td>
<td>48.36</td>
<td>33.52</td>
<td>43.58</td>
<td>27.29</td>
<td>54.91</td>
<td>43.26</td>
<td>30.63</td>
</tr>
<tr>
<td>8-class SVM</td>
<td>38.07</td>
<td>43.81</td>
<td>32.72</td>
<td>46.93</td>
<td>37.51</td>
<td>55.87</td>
<td>50.12</td>
<td>32.72</td>
</tr>
<tr>
<td>8-class decision tree</td>
<td>28.01</td>
<td>51.32</td>
<td>35.67</td>
<td>49.16</td>
<td>29.93</td>
<td>55.87</td>
<td>50.12</td>
<td>32.72</td>
</tr>
</tbody>
</table>

Conclusion
1. Our axes are independent.
2. The type of a link does not solely depend on the follower nor the followee.