Researchers examine correlation between political speeches, voting

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Although politicians are often criticized for making empty promises, when it comes to their voting records, their words may carry more weight than previously thought, according to findings by two Penn State information technology scientists.

The researchers used a computer model to compare voting records from the 110th Congress -- Jan. 3, 2007 to Jan. 3, 2009 -- to each senator's floor statements on the issues to determine whether the two matched up.

They did this by creating a computer-based regression model to scan the floor speech text and compare it to each senator's DW-Nominate score, a measure of how conservative he or she is based on voting record.

"This study validates what we had been thinking - that you can get a good idea about how people will vote based on what they said," said Prasenjit Mitra, assistant professor of information sciences and technology. "We were able to study political discourse and find biases quickly without having to look for specific clues in the text."

Findings showed that legislators do give floor speeches on topics that supported their ideologies, and the supporting materials chosen for those speeches also aligned with their ideologies. For example, conservatives cited sources like the Heritage Foundation, a well-known conservative think tank.

The word-mining technique used in this study is commonly used in

analyzing online product reviews, but had not previously been applied to politics.

The researchers found that nouns used by the senators tend to signal the way they will vote -- a major difference from the online product reviews where typically adjectives are used to identify opinions.

For example, liberals tended to favor nouns like "disability" and "veteran" and adjectives like "homeless" and "ecological," while conservatives opted for nouns like "clone" and "missile" and adjectives like "homosexual" and "ballistic." Mitra said, however, that the voting analysis was based on the overall impact of the words, not each one's individual ideological leaning.

"We were able to gain a better understanding of how opinion is expressed and what clues to look for to identify ideological slants," said Mitra.

Mitra and Lei Zhu, doctoral student, information sciences and technology, presented their work at the Conference on Information and Knowledge Management in November in Hong Kong.

Future research in this area could include building an automated program that could compare real-time data and voting records. The method used for the U.S. political data could also be applied to other countries' political systems with the help of translation software.

Source: Pennsylvania State University (news : web)

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