Latest Electoral College forecast shows McCain ahead by as many as 27 votes

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A new approach to determining which candidate will win the most electoral votes in the U.S. Presidential race factors in lessons learned from the 2004 election and uses sophisticated math modeling. The research will be presented at the annual meeting of the Institute for Operations Research and the Management Sciences (INFORMS).

As of September 16, the margin in electoral votes could be as high as 282.8 votes for Senator John McCain against 255.2 for Senator Barack Obama, depending on the forecasting scenario.

Operations researcher Sheldon H. Jacobson, a professor at the University of Illinois at Urbana Champaign, along with a group of students and collaborators at Southern Illinois University-Edwardsville, created election08.cs.uiuc.edu/ , a math model that dynamically forecasts the outcome of the election.

Prof. Jacobson and colleagues will present their findings at the INFORMS annual meeting, which takes place in Washington, D.C. at the Marriott Waldman Park Hotel and Omni Shoreham Hotel from October 13 – 15, less than three weeks before the election.

Jacobson's model applies a mathematical model to state polling data, using a dynamic programming algorithm to forecast electoral results.

"The results from the 2000 and 2004 presidential election suggested that it can be difficult to predict the winner of the presidential election based

on popular vote," says Jacobson. "In fact, it is possible that the popular vote and the Electoral College vote can lead to significantly different results."

Jacobson's model employs Bayesian estimators (which help scientists make decisions when conditions are uncertain) to determine the probability that a candidate will win each state. He obtains state polling data from Rasmussen Reports, the Quinnipiac University Poll, and SurveyUSA. State-by-state probabilities are then used in a dynamic programming algorithm to determine a probability distribution for the number of Electoral College votes that each candidate will win in the 2008 presidential election.

Professor Jacobson believes that this model provides a more realistic method of predicting the results. In 2004, when most other polls showed Kerry with a clear edge, his model consistently showed a Bush victory.

"We take into account 'safe' states— states that each candidate is basically guaranteed to win," says Jacobson. "In 2004, once you took into account Bush's 'safe' states, he had a much narrower gap to close to get to 270 electoral votes than Kerry."

In the model, a safe state is one in which the candidate has an 85% chance or greater of winning.

Jacobson's model also factors in undecided voters. It accounts for five different voting scenarios involving undecided voters, each considered individually. A "Neutral" scenario provides an unbiased handling of undecided voters. "Strong Republican" and "Strong Democratic" scenarios provide two extreme envelopes around which results can be judged and evaluated, while "Mild Republican" and "Mild Democratic" provide more realistic possibilities if late-breaking information surfaces that shift voter preferences.

"Undecided voters can have a significant role on the outcome of the election. In fact, they are likely to be the ultimate deciders of who will win this election," says Jacobson.

Source: Institute for Operations Research and the Management Sciences