Scientists believe they might be able to solve the mystery over whether Saint Paul really wrote the Letter to the Hebrews if the Vatican supplies some more extra-canonical texts.

Adelaide University's School of Electrical and Electronic Engineering has developed an automatic author detection system that's probed two hotly debated texts, the US Federalist Papers and the Letter to the Hebrews.

The project team led by Professor Derek Abbott uses advanced software techniques to analyse author style based on commonly used words.

In their paper in the journal PLOS ONE, the scientists say the Letter to the Hebrews was originally attributed to Saint Paul but its authorship has been debated since the third century AD.

Scholars suggested Barnabas, Luke and Clement of Rome as alternative authors, so the team tested that theory along with potential authorship by Mark and John, and another possibility, Ignatius of Antioch.

"What we found is that the Letter to the Hebrews is indeed closest to Paul than to any of these other authors," Prof Abbott said.

"But the sting in the tail is that this positive result had only a weak likelihood weighting."

There are two other possibilities - that Luke and Paul collaborated, or that the true author has yet to be found.

"If the Vatican were to agree to supply us with more extra-canonical texts that we haven't tried, we would be happy to do more exhaustive tests," Prof Abbott said.

They also tested the Federalist Papers, a collection of 85 influential political essays written in the late 1700s in the lead-up to the US Constitution. Their authorship was originally a guarded secret.

Scholars now accept that Alexander Hamilton, James Madison and John Jay are the authors but there is some dispute over who wrote what and whether chapters had single authors.

Prof Abbott said there was a high degree of certainty that one of the disputed texts, Essay 62, is written by Madison.
Twelve of the essays cannot be allocated to any of the three authors but there's a similarly strong likelihood they were probably the result of a certain degree of collaboration between the authors.