

To Get Credit or Not to Get Credit

An Analytical Approach to Authorship

--by Tom Zwiller--



Background

- William Shakespeare aka 'The Bard' (1564-1616)
 - Authored 38 plays, 130+ sonnets
 - Focused on Tragedies, Comedies and History
 - Owned the Globe Theatre

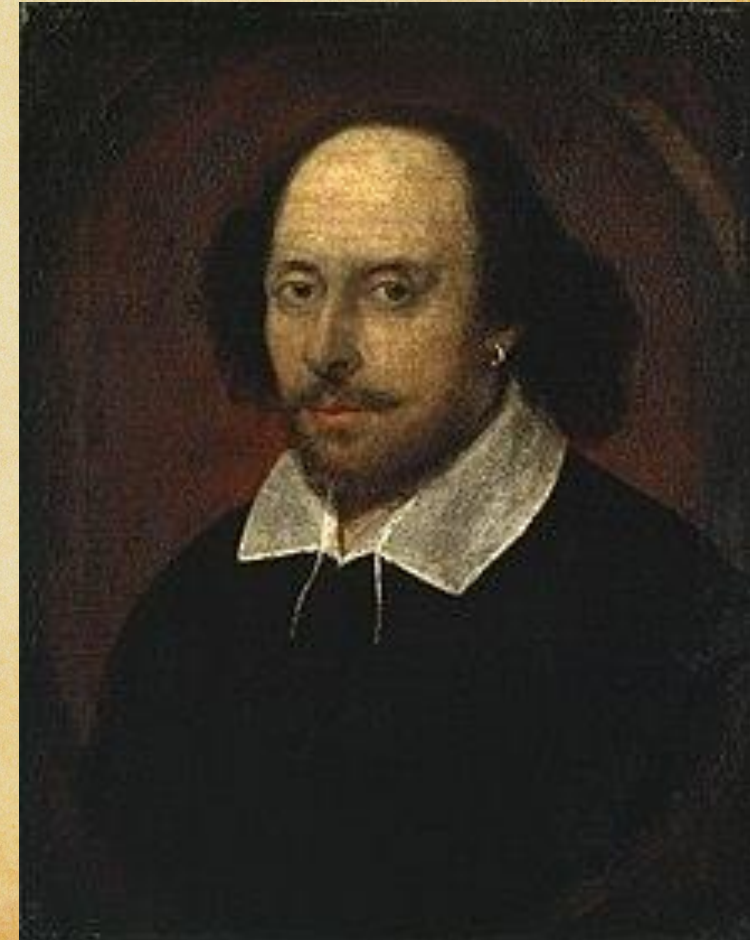


Image Source: Wikimedia Foundation. (2025, February 26). *William Shakespeare*.

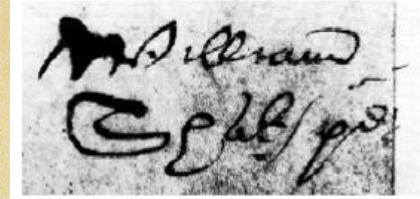
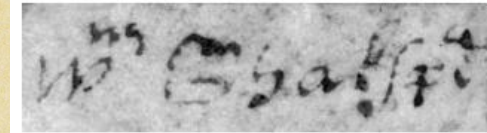
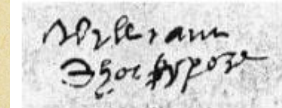
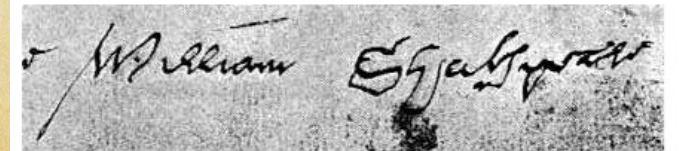
Wikipedia. https://en.wikipedia.org/wiki/William_Shakespeare

Tis a quick lie,

sir
~~questions~~

Despite Shakespeare's extensive works, scholars have

- Education, Literacy, Funeral/Will
- Plays with contested authorship:
 - Henry VI Part 1 (Folger Shakespeare Library)
 - Edward III (Encyclopædia Britannica)
 - Arden of Feversham (Encyclopedia.com)

A close-up of a handwritten signature in cursive script, appearing to read "William Shakespeare".A close-up of a handwritten signature in cursive script, appearing to read "William Shakespeare".A close-up of a handwritten signature in cursive script, appearing to read "William Shakespeare".A close-up of a handwritten signature in cursive script, appearing to read "William Shakespeare".A close-up of a handwritten signature in cursive script, appearing to read "William Shakespeare".A close-up of a handwritten signature in cursive script, appearing to read "William Shakespeare".

Though this be Madness, There is Method

- Collected 40 Shakespeare plays, 7 Marlowe plays
 - Removed plays with contested authorship
- Trained SVM Model, which can outperform XGBoost¹

1. Boran, T., Martinaj, M., & Hossain, M. S. (2020, June 20). *Authorship Identification on Limited Samplings*. Computers & Security.

<https://www.sciencedirect.com/science/article/abs/pii/S0167404820302194>

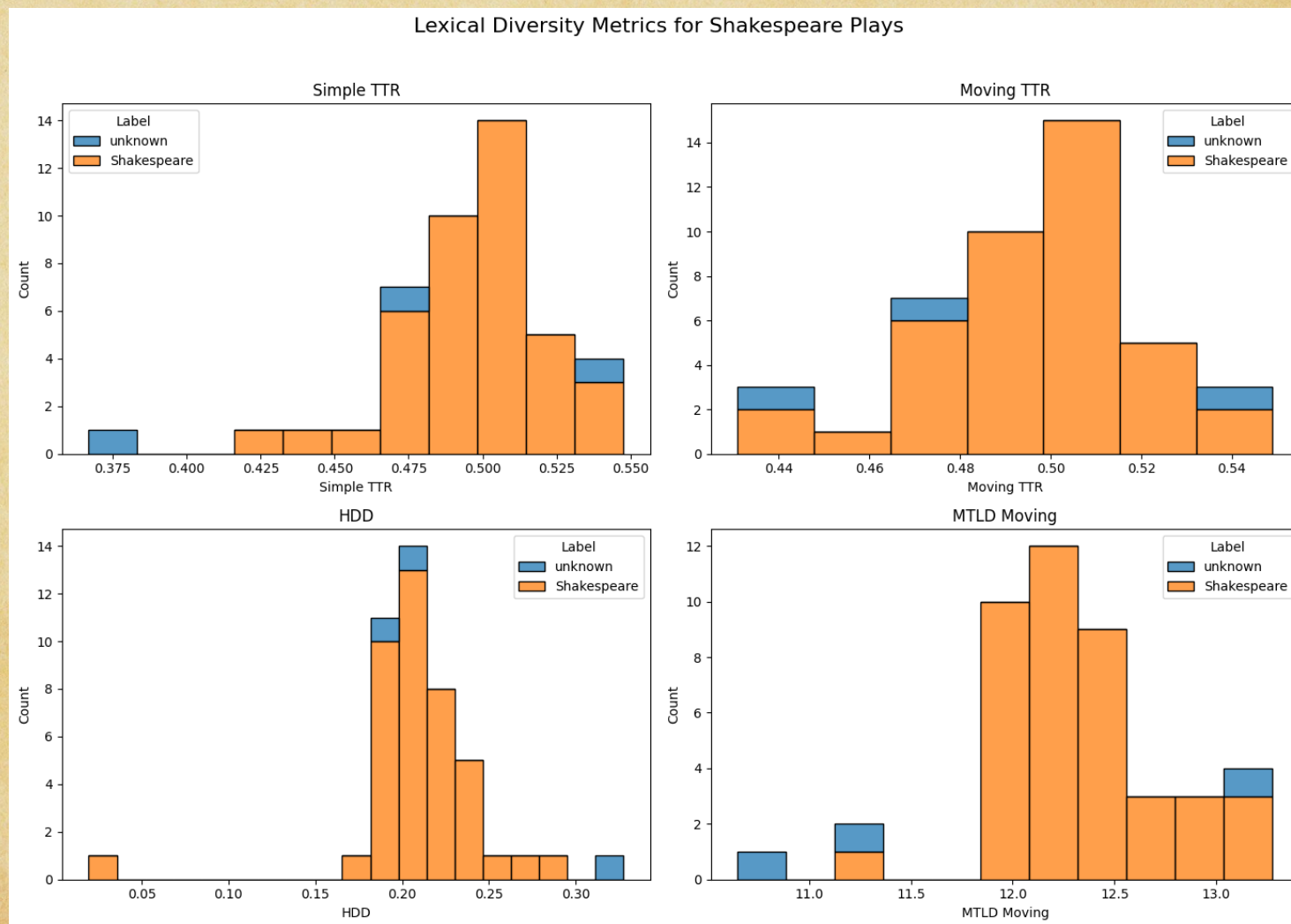


Much Ado About Nothing?

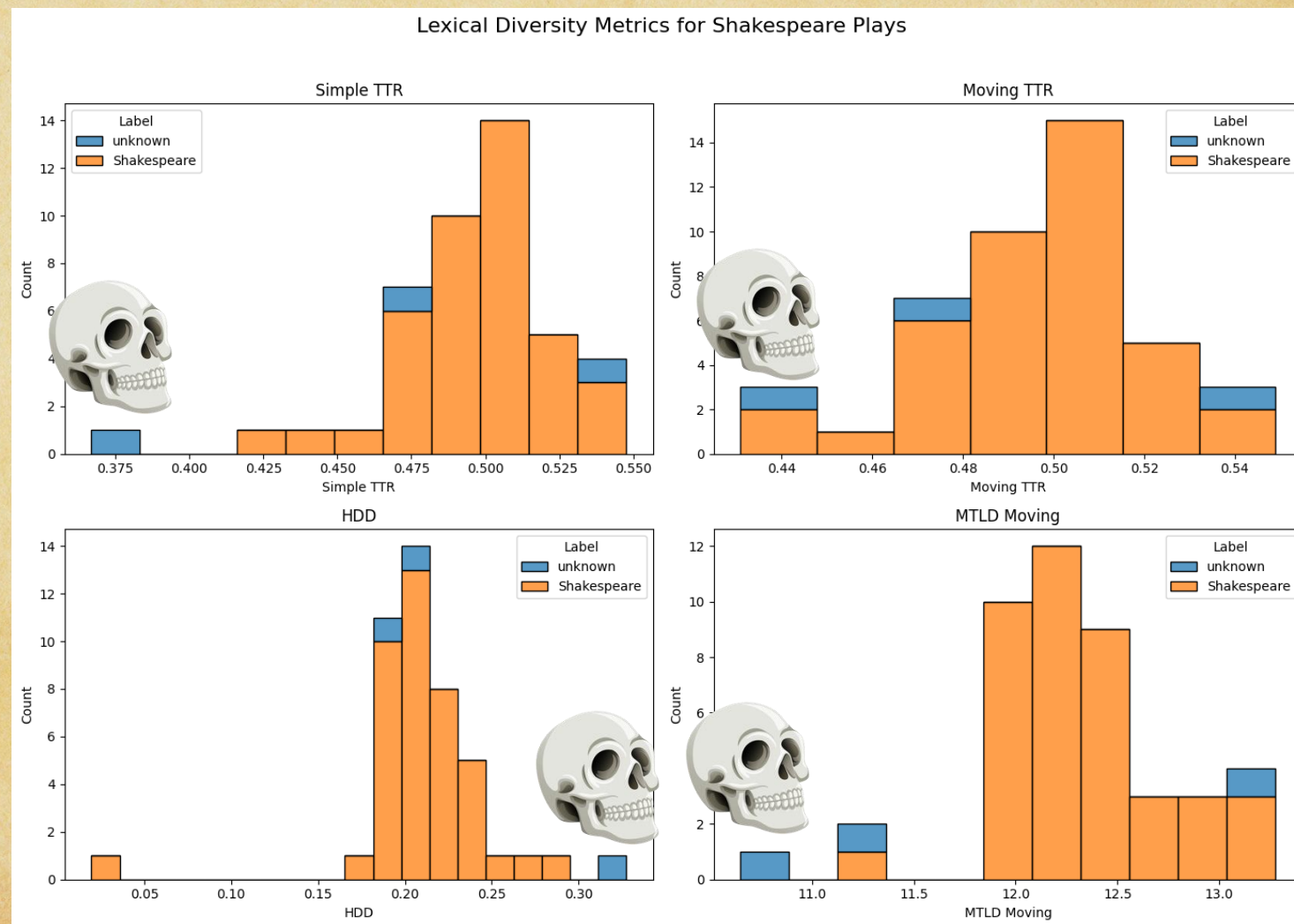
- The SVM Model was able to predict the test set and

Play Analyzed	% of Shakespeare Authorship
Shakespeare Test Average	97.92%
Marlowe Test Average	14.25%
<u>Henry VI Part 1</u>	83.2%
<u>Arden of Feversham</u>	79.5%
<u>Edward III</u>	78.2%

Shall I Compare Thee...?



Shall I Compare Thee...?



All's Well That Ends Well

- No definitive proof Shakespeare didn't author his plays
 - However, there is reason to think there was co-authorship
 - SVM Model predicted lower than expected chances
 - Lexical Diversity was largely normal

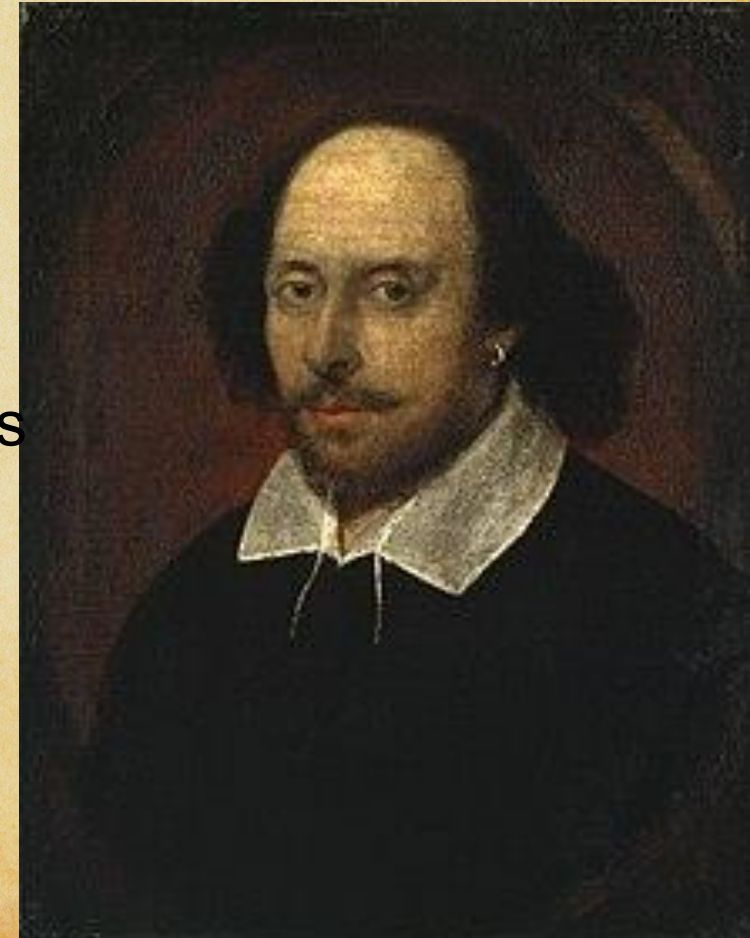


Image Source: Wikimedia Foundation. (2025, February 26). *William Shakespeare*.

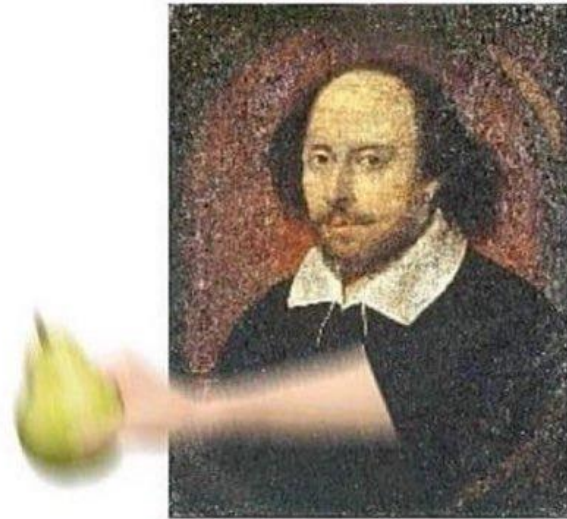
Wikipedia. https://en.wikipedia.org/wiki/William_Shakespeare



William



Pear



William Shakespeare

Sources

Appendix: Authorship of Henry VI, Part 1. Folger Shakespeare Library. (n.d.).

<https://www.folger.edu/explore/shakespeares-works/henry-vi-part-1/appendix-authorship-of-henry-vi-part-1/>

Boran, T., Martinaj, M., & Hossain, M. S. (2020, June 20). *Authorship Identification on Limited Samplings*.

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Encyclopædia Britannica, inc. (n.d.). *Edward III*. Encyclopædia Britannica. <https://www.britannica.com/topic/Edward-III-play-by-unknown-author>

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Wikimedia Foundation. (2025a, February 23). *Shakespeare Authorship Question*. Wikipedia.

https://en.wikipedia.org/wiki/Shakespeare_authorship_question

Wikimedia Foundation. (2025, February 26). *William Shakespeare*. Wikipedia.

https://en.wikipedia.org/wiki/William_Shakespeare

