

NLP + Astronomy

What is the problem?

How can kinematic modeling techniques from astrophysics be applied to analyze and understand the evolution of writing styles in large-scale linguistic datasets?

What are the key components of my approach and results?

...We will utilize *large-scale corpora from diverse language families*, focusing on historical texts to capture changes in syntax, vocabulary, and stylistic elements over time. Specifically, we will adapt *kinematic models* by defining linguistic "velocity" metrics that quantify shifts in writing style, analogous to how velocities are analyzed in astrophysics...

NLP + Criminology

What is the problem?

How can a multimodal LLM that integrates qualitative narrative analysis with real-time speech translation effectively address the communication needs of communities affected by mass incarceration?

What are the key components of my approach and results?

...I will employ a mixed-methods approach, combining qualitative data from interviews with *impacted individuals* and quantitative data from existing linguistic resources. The model will be trained on a diverse dataset that captures a wide range of narratives related to *mass incarceration*, ensuring representation of various socio-cultural contexts....