*Predicting Outcomes for Adjudication Appeals through Machine Learning*

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*Abstract*—Individuals who wish to work in or with the United States Government are required to undergo a background investigation. These investigations focus on investigating an individual and any and all aspects of their personal life and behavior going back 5-10 years. Some of these cases are denied and then later appealed. Of the cases that are appealed, another investigation is done and a final decision is made on whether or not the individual is granted or denied a security clearance.

Keywords—machine learning, predict, model, adjudicative guidelines, scikit-learn, Jupyter Notebooks

# Introduction

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# Adjudicative Appeals

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Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

## Scikit-Learn

* Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.
* Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
* Do not mix complete spellings and abbreviations of units: “Wb/m2” or “webers per square meter”, not “webers/m2”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.
* Use a zero before decimal points: “0.25”, not “.25”. Use “cm3”, not “cc”. (*bullet list*)

# Predicting Outcomes

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## Outcomes and Analysis

# Use Cases and Limitations

# Future Work

##### References

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