

AI SYSTEM FOR CLASSIFYING, EVALUATING AND INTERPRETING PRIVACY POLICIES AND TERMS OF CONDITIONS

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PROJECT BACKGROUND

• STATE THE ISSUE:



Gathering, using, and disseminating of personal data

INTRICATE LENGTHY LEGALEASE



Hard for users to understand

INTRODUCTION



Privacy Policies and Terms of Conditions

MACHINE LEARNING SYSTEM

Detect concerning sections Summarize -> Make it understandable

OUTPUT

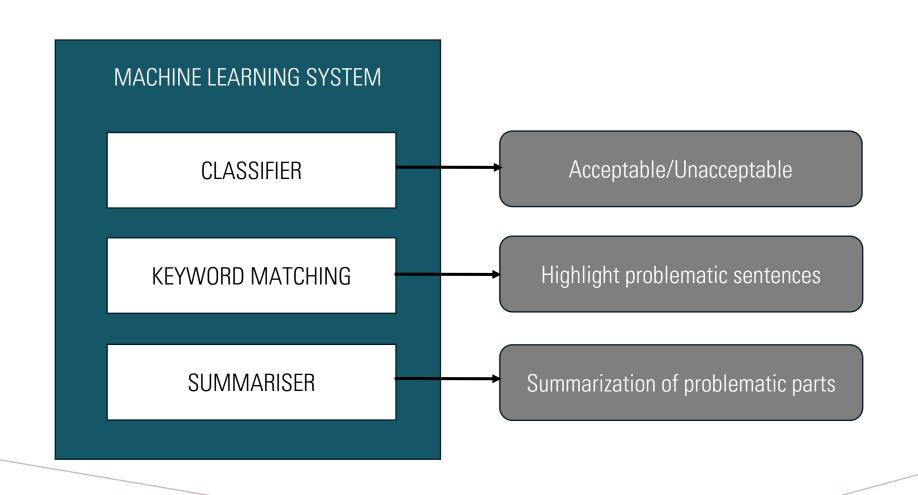
Acceptable - Unacceptable X

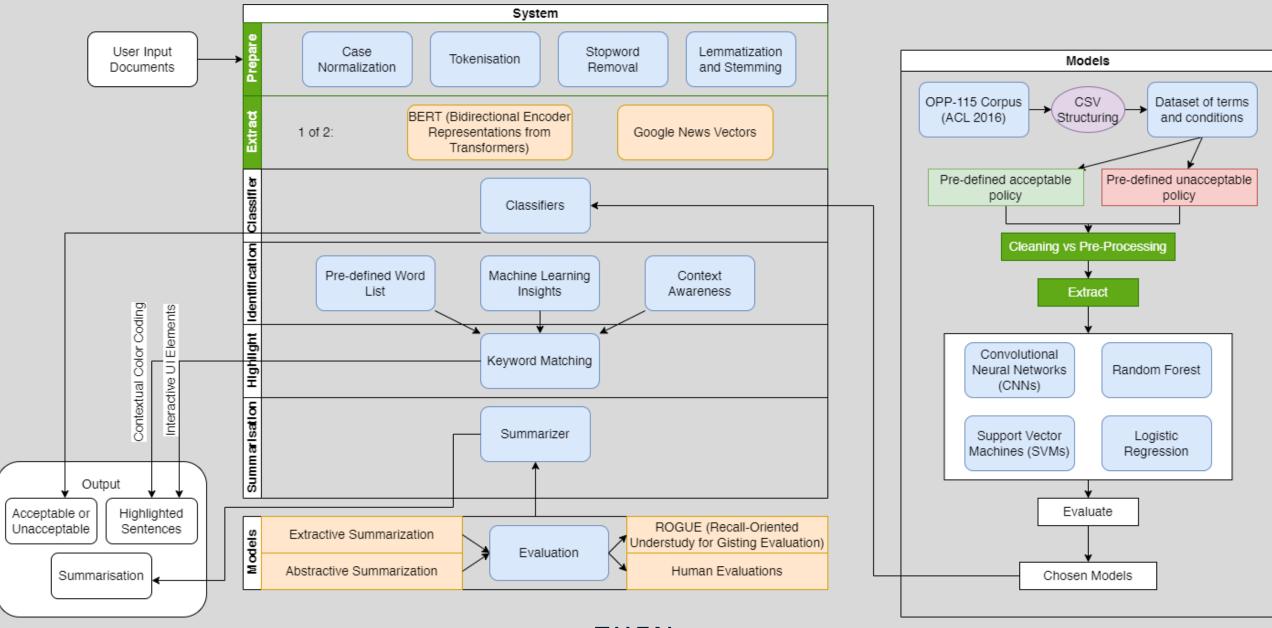
Highlight Problematic sentences



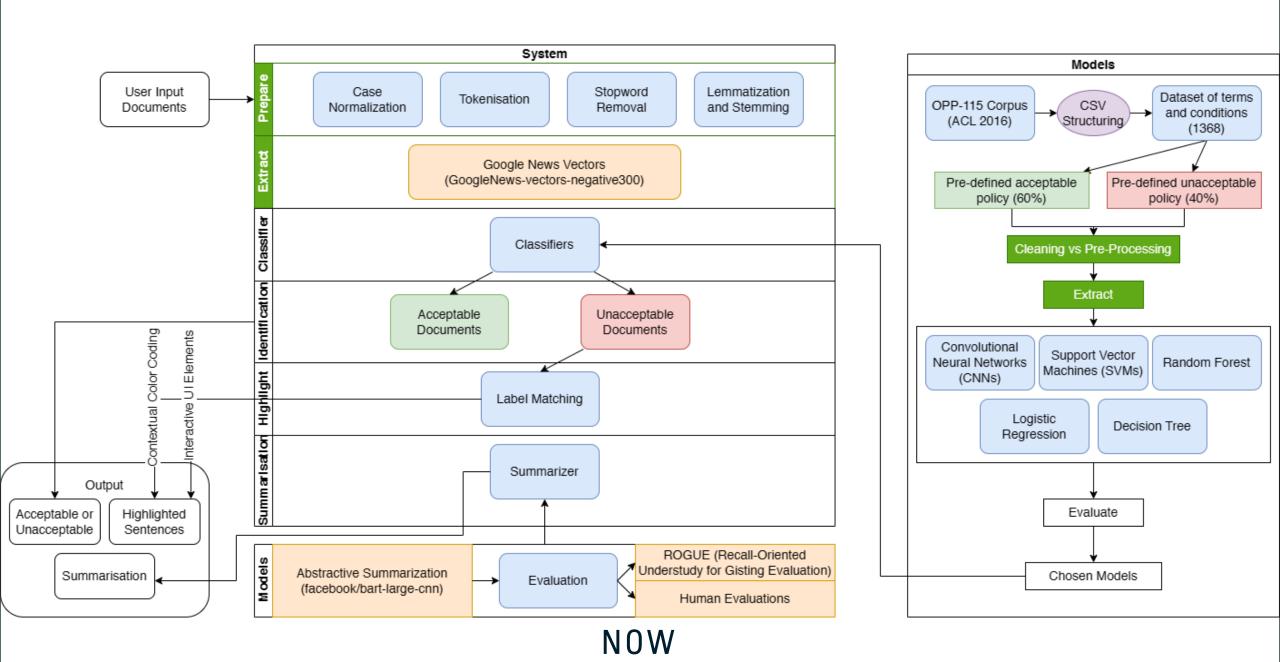


OUTCOME EXPECTATION





THEN



Privacy Policy Validation

Enter text:

Sharing Within the TEN Corporate Family. We may share your personal information with any parent company, subsidiary, or affiliate in the TEN corporate family. All entities within the TEN corporate family may have access to your personal information as well as anonymous, aggregate demographic data.

If you do not wish certain information to be shared for these purposes, send a letter to the Online Privacy Coordinator whose contact information is listed at the end of this Privacy Notice.

Sharing Information with Third Parties for Advertising and Other Promotional Purposes. We may use third-party service providers to target and serve some of the advertisements you see on the Site. We may share technical or aggregate information, such as type of pages viewed and categories of interest, from our Site with these service providers and advertisers for their use in displaying ads on our Site. These third party providers and advertisers may use their own browser or flash cookies, web beacons and similar technologies to collect technical information (such as device unique identifier, IP address, MAC address, browser type, pages visited, and location information) from users of the Site that is generated automatically as a user views or interacts with an ad. These service providers may use that information, sometimes in conjunction with similar information gathered through other websites and other sources, to deliver advertisements on this Site, and on other websites.

Validate

Validation Result

We have recognised some of the parts that could violate your user rights:

Sharing Within the TEN Corporate Family. We may share your personal information with any parent company, subsidiary, or affiliate in the TEN corporate family may have access to your personal information as well as information as

If you do not wish certain information to be shared for these purposes, send a letter to the Online Privacy Coordinator whose contact information is listed at the end of this Privacy Notice.

Sharing Information with Third Parties for Advertising and Other Promotional Purposes. We may use third-party service providers to target and serve some of the advertisements you see on the Site. We may share technical or aggregate information, such as type of pages viewed and categories of interest, from our Site with these service providers and advertisers for their use in displaying ads on our Site. These third party providers and advertisers may use their own browser or flash cookies, web beacons and similar technologies to collect technical information (such as device unique identifier, IP address, MAC address, browser type, pages visited, and location information) from users of the Site that is generated automatically as a user views or interacts with an ad. These service providers may use that information, sometimes in conjunction with similar information gathered through other websites and other sources, to deliver advertisements on this Site, and on other websites.

Summarization for problemmatic parts:

We may share your personal information with any parent company, subsidiary, or affiliate in the TEN corporate family. We may also share anonymous, aggregate demographic data.

SYSTEM OVERVIEW - DEPLOYMENT

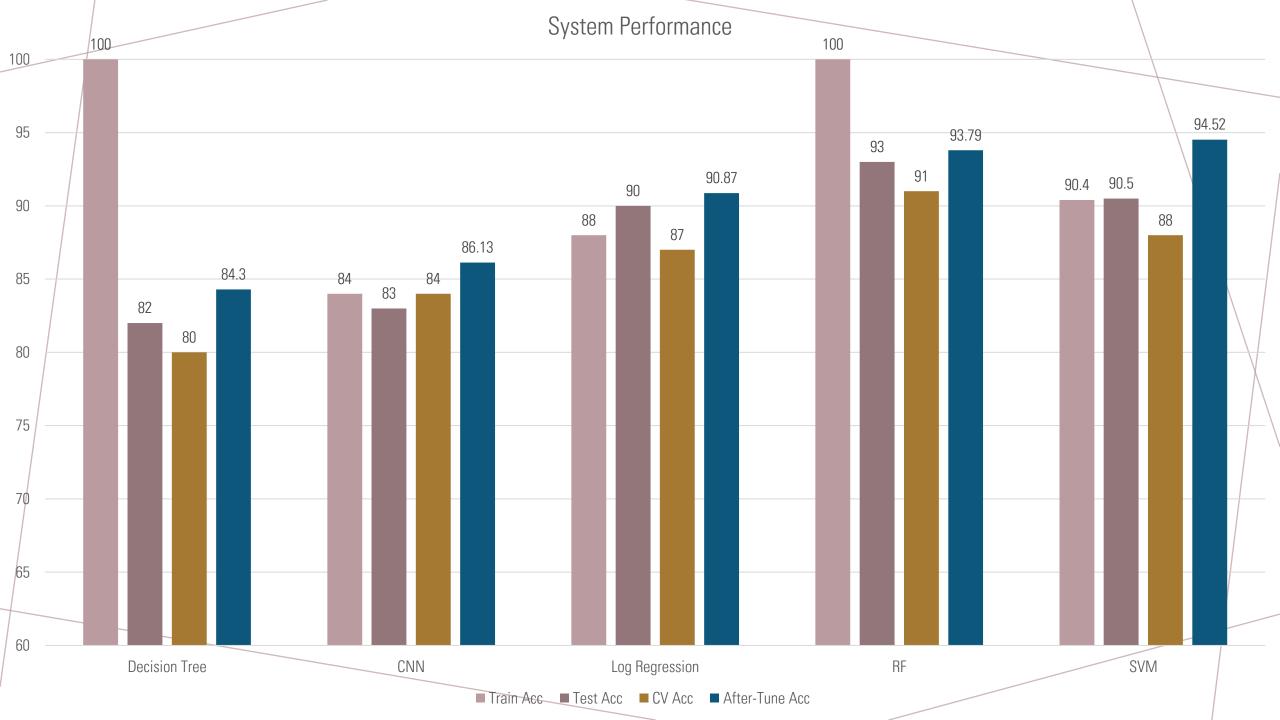
SYSTEM PERFORMANCE

Classification (Train Acc/Test Acc - CV Acc - After-Tune CV Acc)

- Convolutional Neural Networks: ~84/~83 84 86.13
- Support Vector Machines: ~90.4/~90.5 88 94.52
- Random Forest: 100/~93 91 93.79
- Logistics Regression: ~88/~90 87 90.87
- Decision Tree: 100/~82 80 84.3

Summarisation

facebook/bart-large-cnn: best performing ROGUE score and manually reviewed.



DEMO

HTTPS://COLAB.RESEARCH.GOOGLE.COM/DRIVE/1JM-PC5TXI-OO_YBL5AGEEVZP61UGHCKW?USP=SHARING

LIMITATIONS

- The dataset we are using are abundant, but are from 2016.
 - To get up-to-date policies, manual work is still required.
- The scale of the project is constraint by the hardware and software limitations.
 - GoogleNewsVector
 - More unique summarization models
- What a person considers a "problematic" section might not be the same for the others and are prone to mistakes.



THANK YOU FOR LISTENING!

REFERENCES

"What is BERT (Language Model) and How Does It Work?," *SearchEnterpriseAl*. https://www.techtarget.com/searchenterpriseai/definition/BERT-language-model#:~:text=BERT%20uses%20a%20method%20of,by%20a%20pre%2Dfixed%20identity.

[2]

Hugging Face, "facebook/bart-large-cnn · Hugging Face," *huggingface.co*. https://huggingface.co/facebook/bart-large-cnn (accessed Oct. 24, 2023).

APPENDIX

Github Repo: https://github.com/leocomsci/NLP-policy

Google-News-negative-300: Google News-vectors-negative 300.bin.zip