GENSUM

An automated approach for improving abstractive text summarization using an adaptive generalized optimal transformer

FINAL YEAR PROJECT | PSPD

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OUTLINE

1. Problem Background & Domain
2. Research Gap & Solution Approaches
3. Existing Solutions
4. Proposed System Architecture
5. Prototype Demo
6. Additional Research improvements

1. PROBLEM BACKGROUND & DOMAIN

Problem Domain:

- movie review summarization, to save customers time.

Research limitation to be addressed:

- performance increase, since mostly traditional ML and DL are used but yet the need for performance enhanced using latest approaches (such as Transformers).

2. RESEARCH GAP & SOLUTION APPROACHES

Research Gap

- Optimize transformers for abstractive text summarization & creating a generalized model/solution which can be able to be adapted to any domain and increase performance as the domain uses it with time.
- This can be movie domain, hotel domain, tourism etc….

Solution Approaches

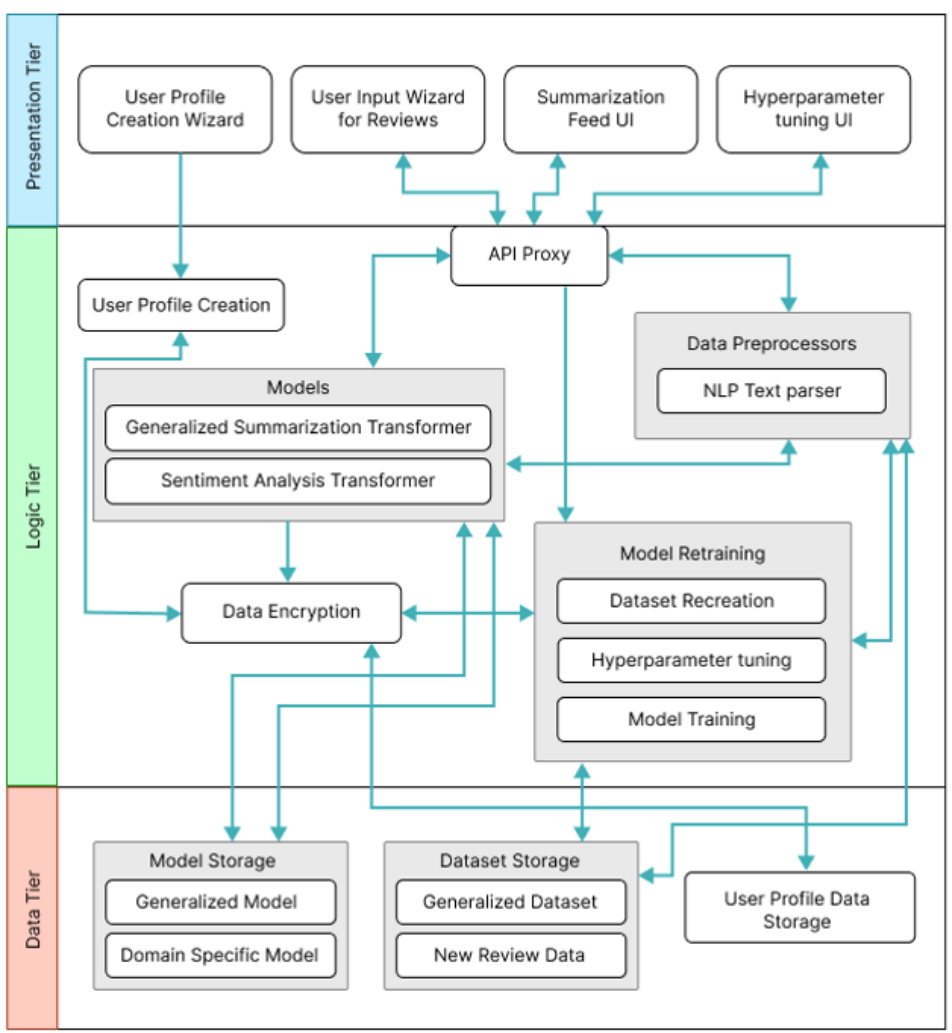
- Automating hyperparameter searching and model retraining
- Experimenting top tier transformer architecture to filter out the optimal for this use-case

3. EXISTING SOLUTIONS

Competitor Analysis Table					
Tools / **Feature**	Summarize Bot	Resoomer	Smmry	Text Compactor	**GenSum**
Summarizing Text	✓	✓	✓	✓	✓
Domain Specific Generalization	✗	✗	✗	✗	✓
Ease of Use via GUI	✗	✓	✓	✓	✓
Summary sentiment and score	✗	✗	✗	✗	✓

4. Proposed System Architecture

High Level System Architecture



5. PROTOTYPE DEMO

6 . ADDITIONAL RESEARCH IMPROVEMENTS

- Experimenting the usage of hybrid model combination using ensemble techniques.
- Customize the existing transformer architecture layers to increase the performance.