



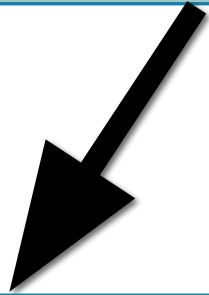
# QUERY-BASED SUMMARIZATION

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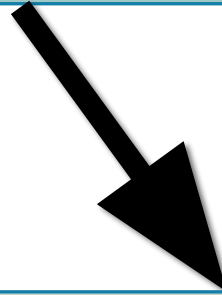
## **Text Summarization**

Technique for generating concise summary with **useful** information and **maintaining** the overall meaning of the original data



### **Extractive**

**Relevant** words pulled out from the original text



### **Abstractive**

**Generating** sentences describing the context of original text

# DATASET

A collection of corpus on various debate topics collected from Debatepedia

- **663 debates**, with documents which all have a least one query
- Debate = {query,document,summary}
- Avg queries/debate = 5
- Avg documents/query = 4
- The **average word** count per:

Document	Summary	Query
66	11	10

Emissions: Is algae biofuel good for combating global warming?

Economics: Is algae biofuel economically viable?

Land-use: Does algae biofuel take up too much land?

Ecosystems: Is algae biofuel generally good for ecosystems?

Water-use: Does algae biofuel use too much water?

Clean coal: Is the use of algae to clean coal a good idea?

Vs. solar: Is algae biofuel superior to solar power?

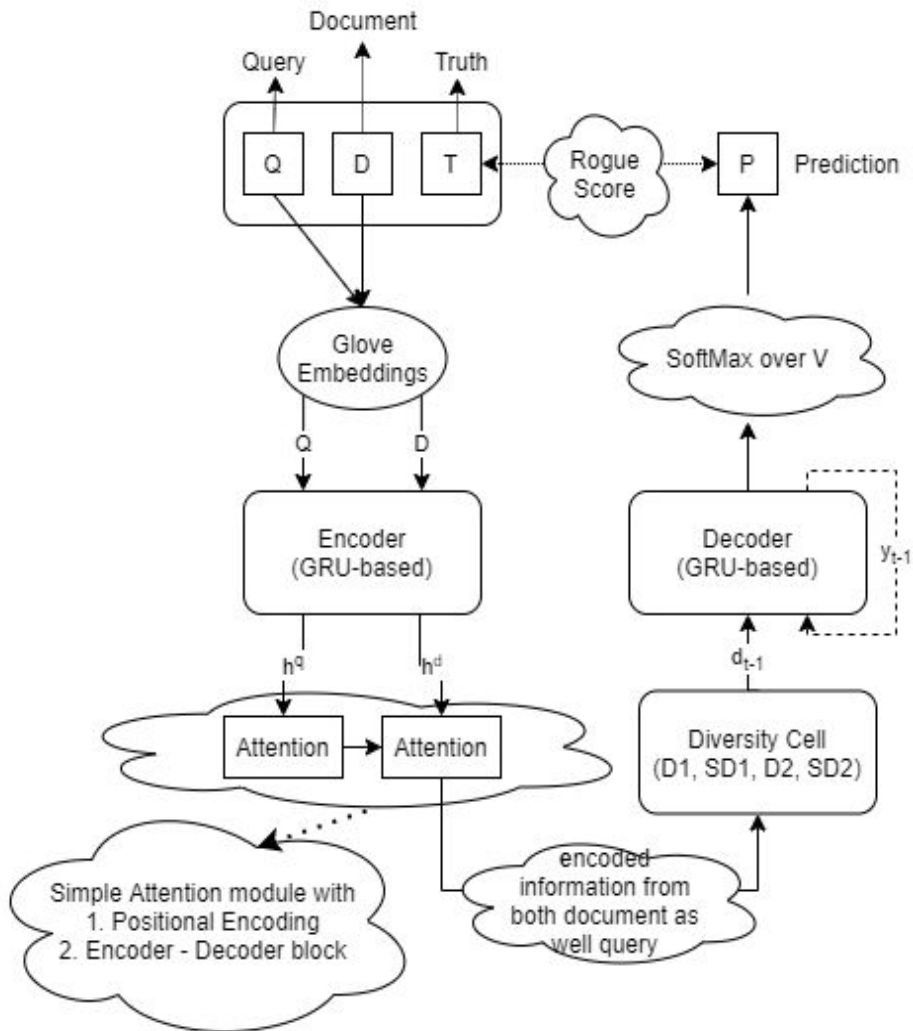
Vs. other biofuels: Is algae biofuel superior to other biofuels?

**Land-use: Does algae biofuel take up too much land?**

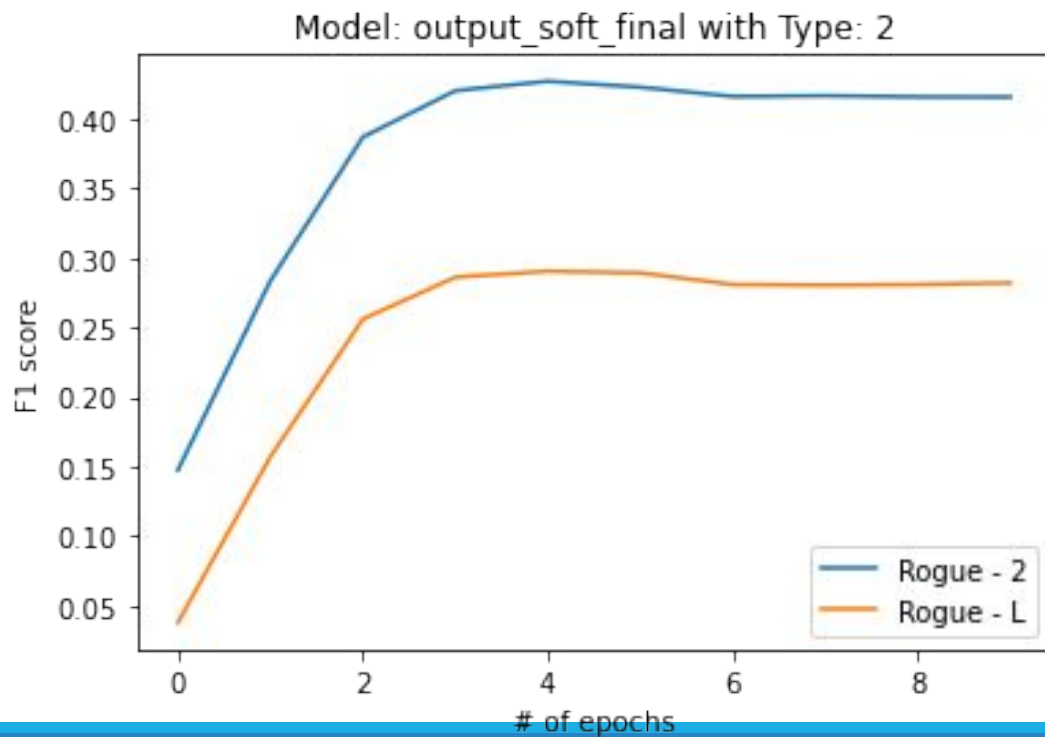
■ **Algae yields much more biofuel per acre than other fuels** Compared with second generation biofuels, algae are high-yield high-cost (30 times more energy per acre than terrestrial crops) feedstocks to produce biofuels. Since the whole organism uses sunlight to produce lipids, or oil, algae can produce more oil in an area the size of a two-car garage than an entire football field of soybeans.

■ **Algae photo-bioreactors require very little land** "Algae: Not Only The Best Biofuel By Far..." Ecoverity @ - "For the algae-culture projects which use large growing ponds, the potential biodiesel production per acre is 30 to 100 times greater than obtainable with corn, soy and palm oil. However the most efficient systems, called photo-bioreactors, stack clear tubes of water with algae in the sun, requiring very little acreage for significant production. This is the system we are demonstrating at Ecoverity."

# MODEL TECHNICALITIES



# RESULT

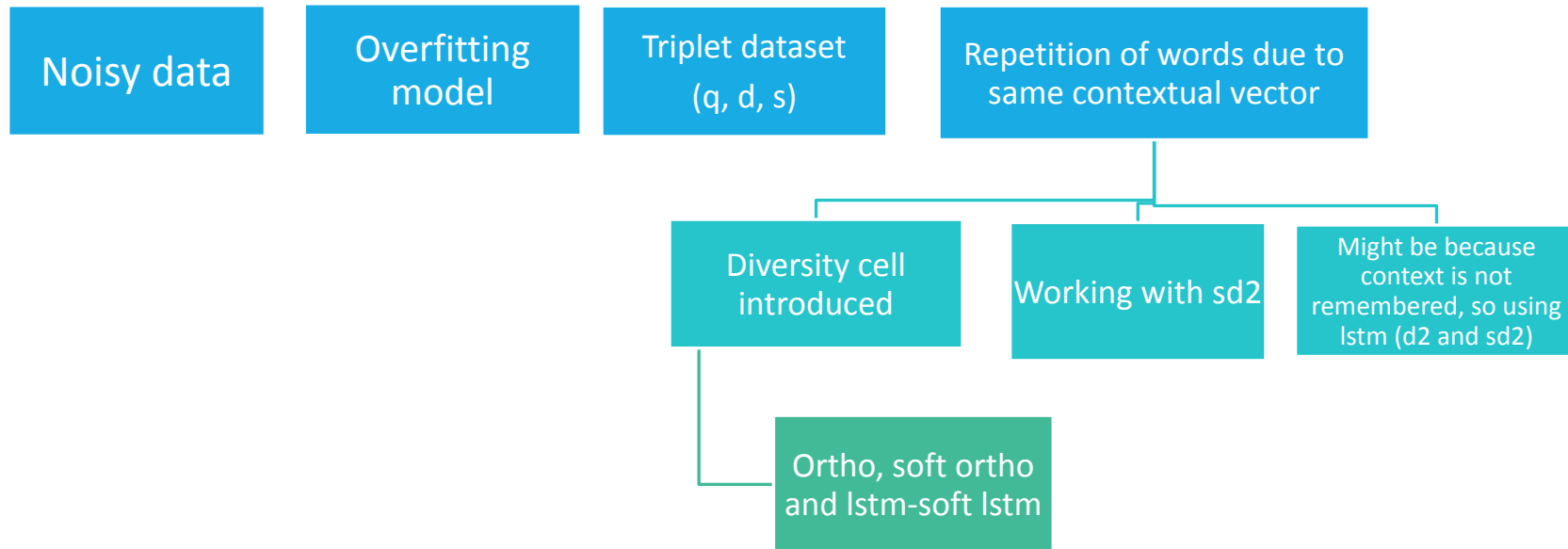


# PREDICTED SUMMARY

clean_true	clean_pred
<b>alternatives to hydrogen exist to lower foreign oil dependencies</b>	<b>alternative to hydrogen exist to lower overseas oil dependencies</b>
<b>of powers in reactors is not economical</b>	<b>nuclear electricity is expensive</b>
communism run by bureaucracy not the people	communism run by central bureaucratic not the people
the repercussions of such a bans want not be severe	the consequences of such a bans need not be severe
parents should talking to their children about healthier eating habits	parents should talk to their child about healthier eating habits
wikipedia s popular makes the spread of common	wikipedia s popularity makes spreading common
concerns over women s rights can not be blamed on	rights can not be blamed on
progressive taxation is socialist wealth redistribution and state	progressive socialism enable an making the tax
people need not see bull die in order to know	hunt is hunt for self over animals to their
wheat methanol energy produces a profit energy gain	electric cars can back-up potential out ethanol
parenting can making kid mentally	children s often make kid queen physically

# ROADBLOCKS AND SOLUTION

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## Conclusion:

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- A Query-based Abstractive Summarization model
- The model is a diversification mechanism based on successive orthogonalization.
- Provides diverse context vectors at successive time steps
- Pays attention to words repeatedly if need be later in the summary.
- Adding an attention mechanism on the query string gives best summaries.

## Future Scope:

- A Context-based Abstractive Summarization model
- Context = Single word/ phrase/sentence/query
- Opinion generation



# Thank you!

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MASK UP & STAY SAFE!