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4N - Negative News Neural Nets Project

Classifying Media Articles with Machine Learning Models

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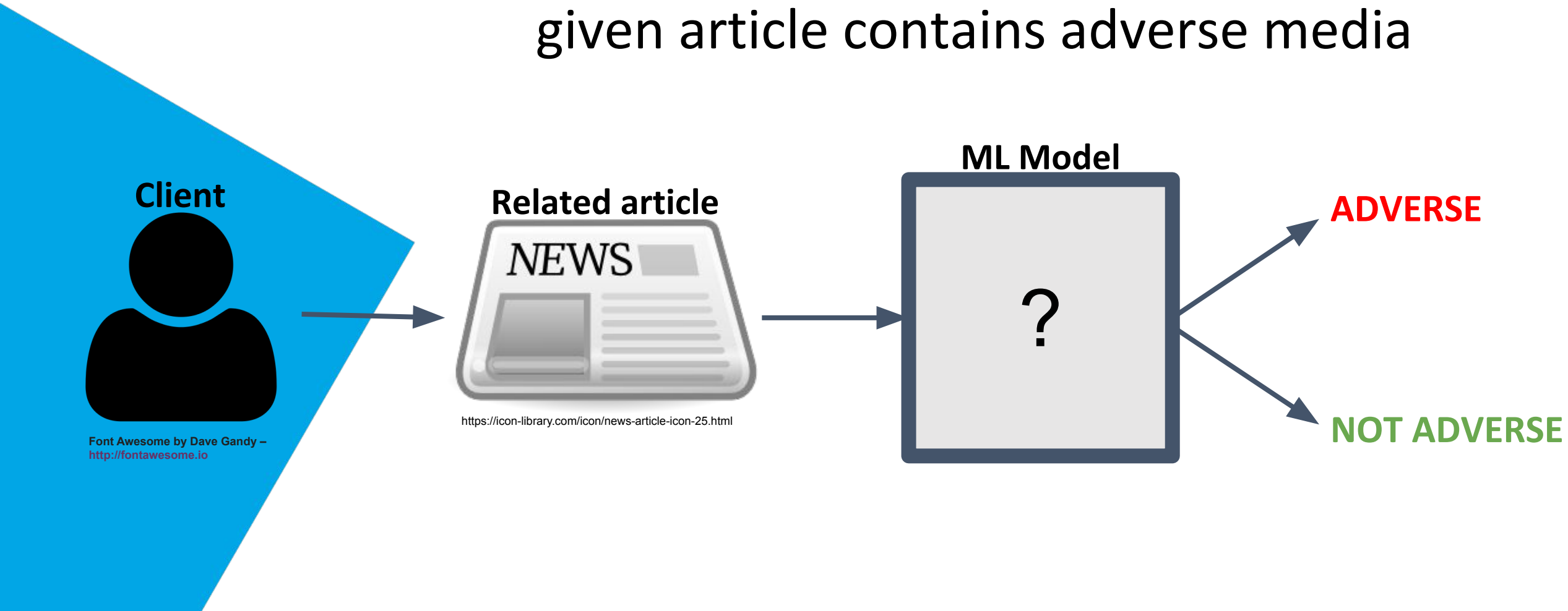
Goal

A model that determines whether a given article contains adverse media



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Preprocessing & Cleaning

Before pre-processing:

	article	label
8	Top 10 Crooked CEOs Bernie Madoff, who is sche...	1
10	Top fund manager forced to resign after BBC in...	1

After pre-processing:

	article	label
0	crooked ceos bernie madoff schedule sentence j...	1
1	fund manager force resign bbc investigation pu...	1

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Negative results (a.k.a. the path not to take)

- Additional automatically collected data
- Text augmentation
- LSTM
- Logistic Regression
- GloVe
- XLNet
- etc.

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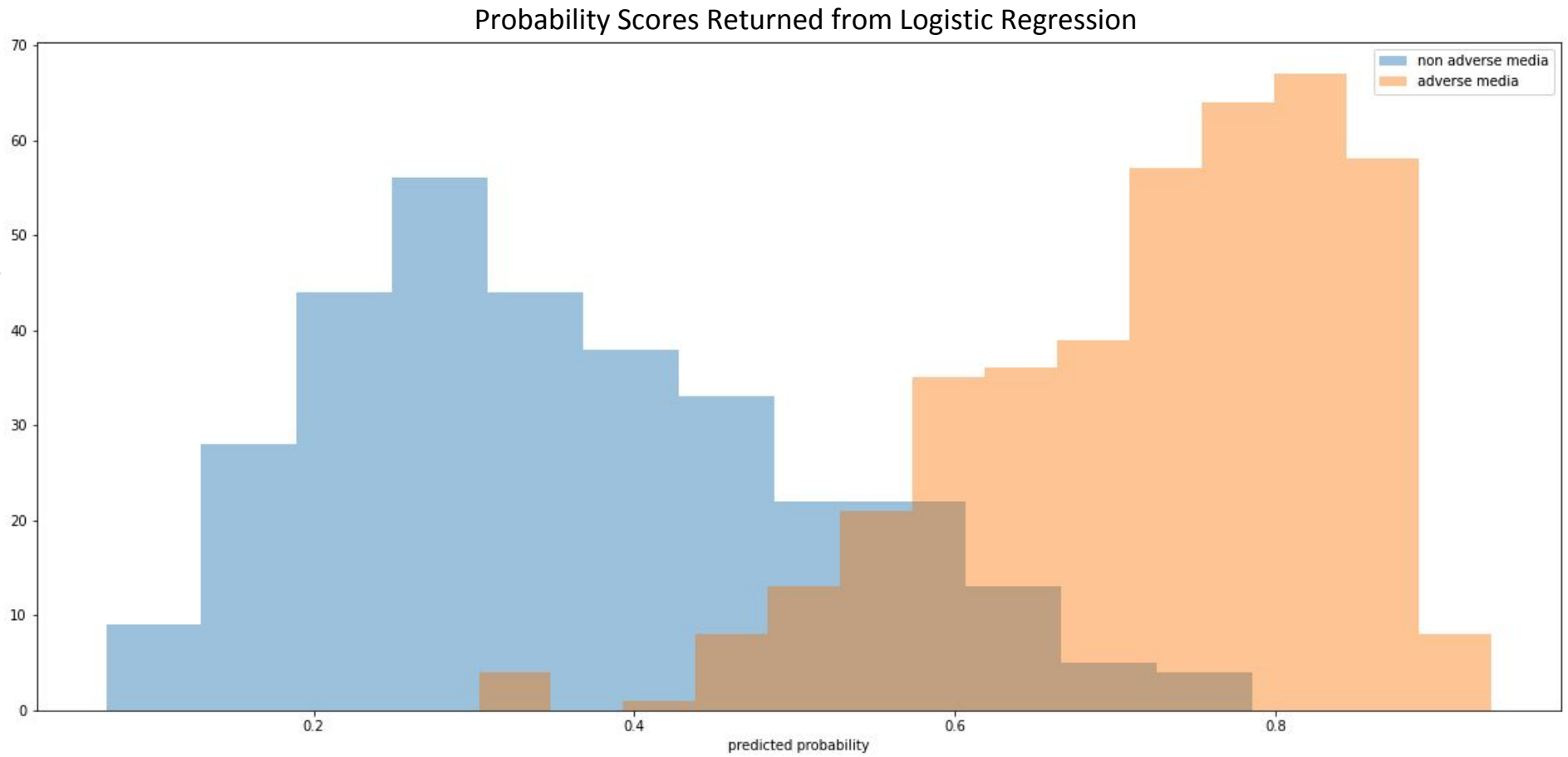
Negative results



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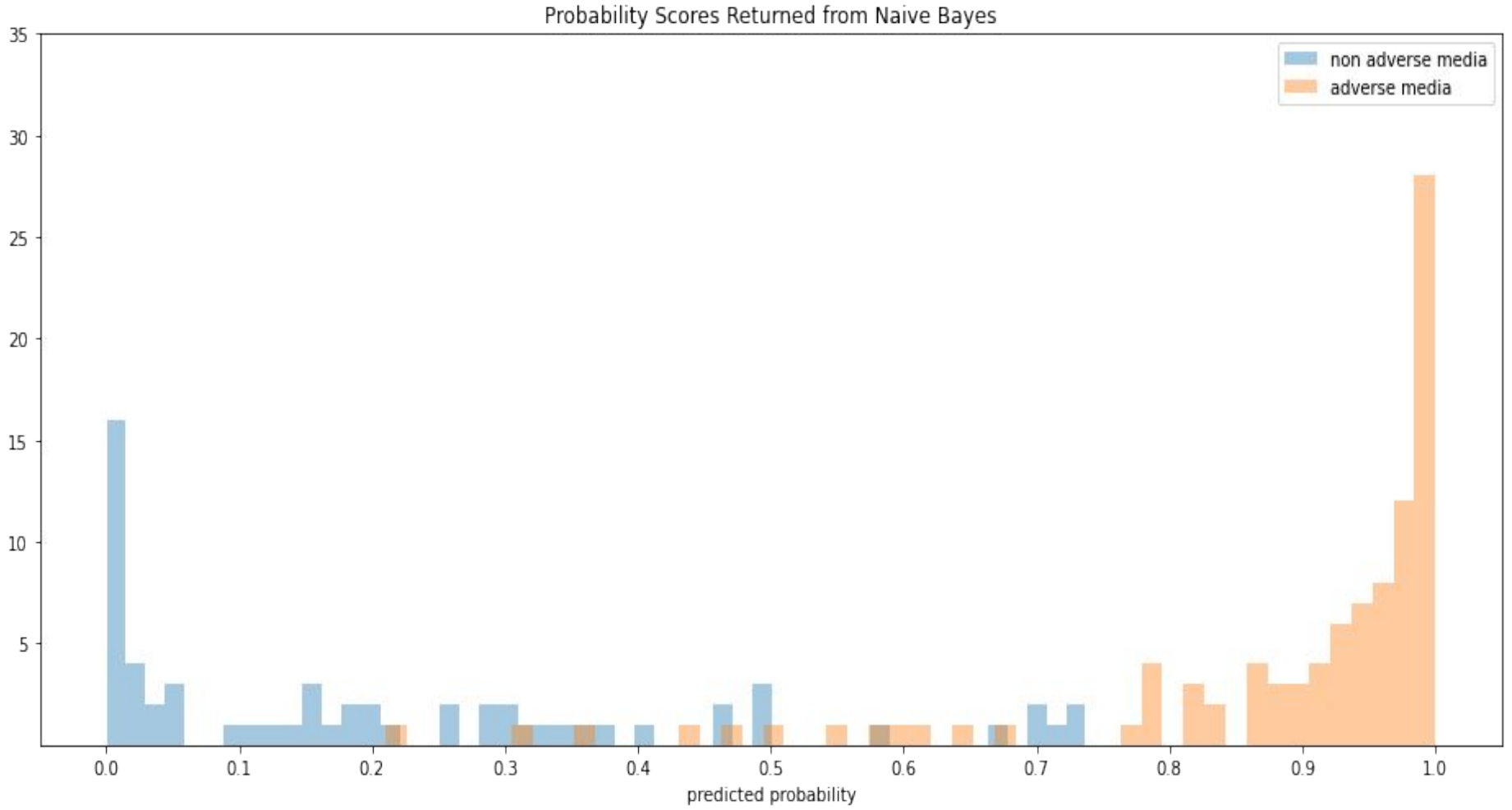
Naive Bayes

- **Public test F1-score: 93.9%**



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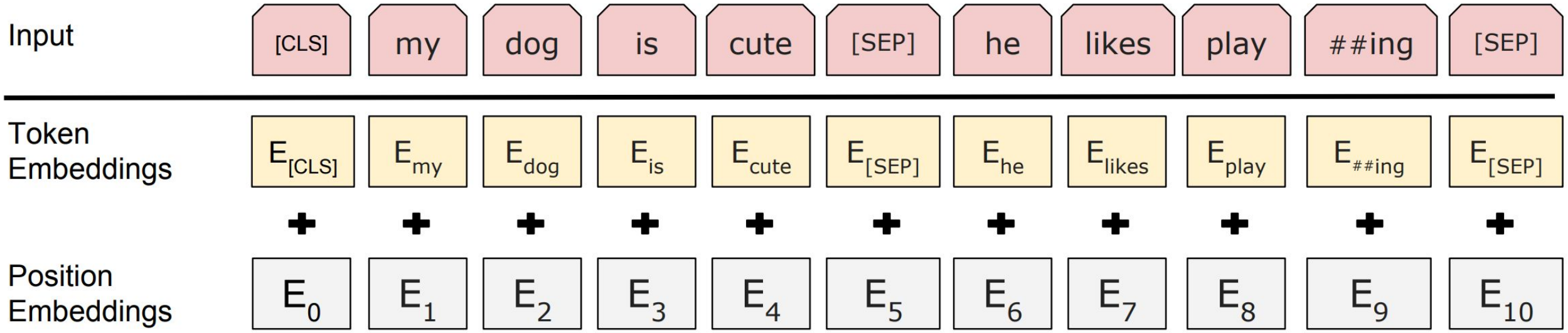
BERT

Bidirectional Encoder Representations from Transformers



BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding (https://arxiv.org/pdf/1810.04805.pdf)

- Max length of ~500 words
- Full articles result in OoM errors

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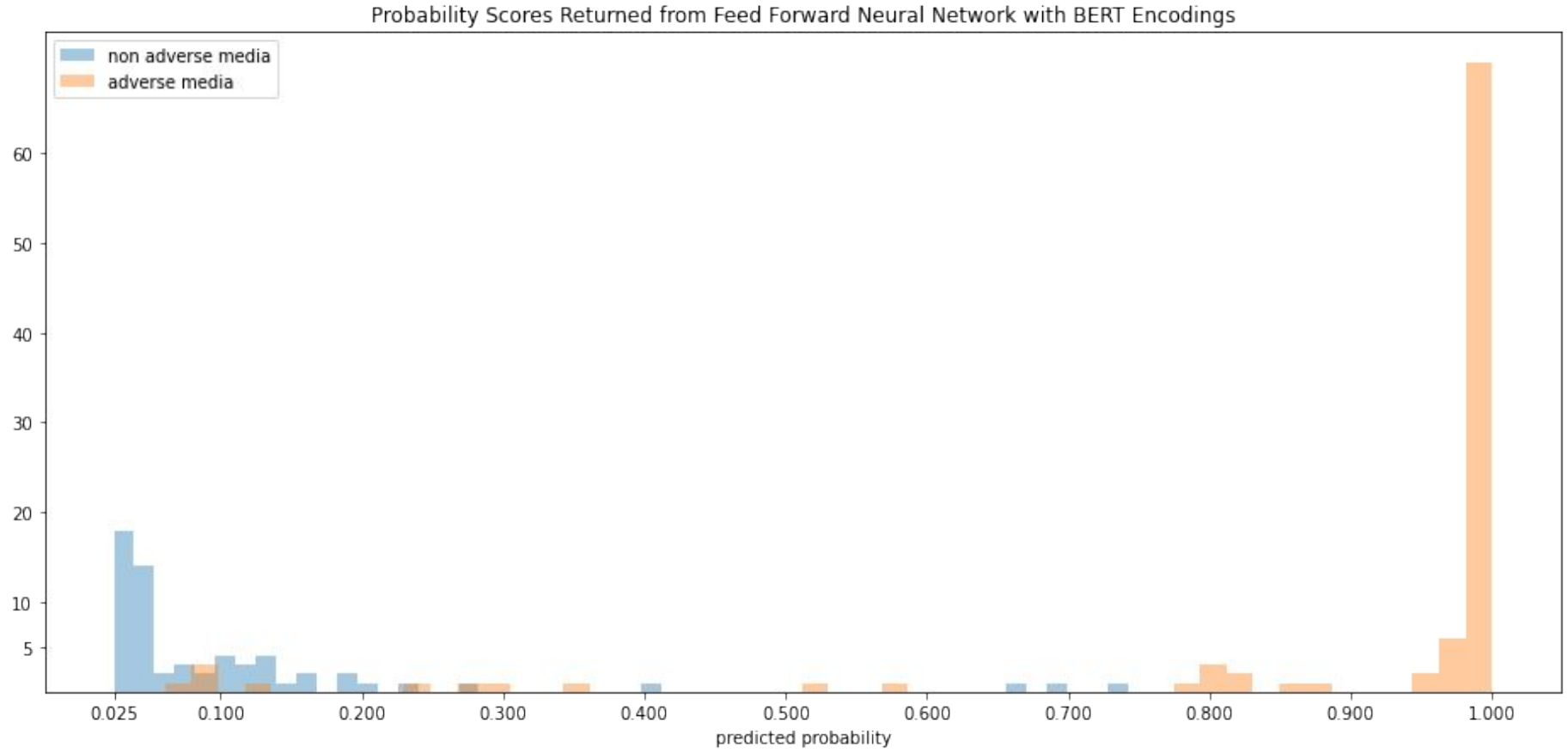
BERT Results

- **Public test F1-score: 94.3%**



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Learnings

- Quality over quantity
- Keep it simple

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Links:

https://github.com/kristjanr/ut-ml-adverse-media