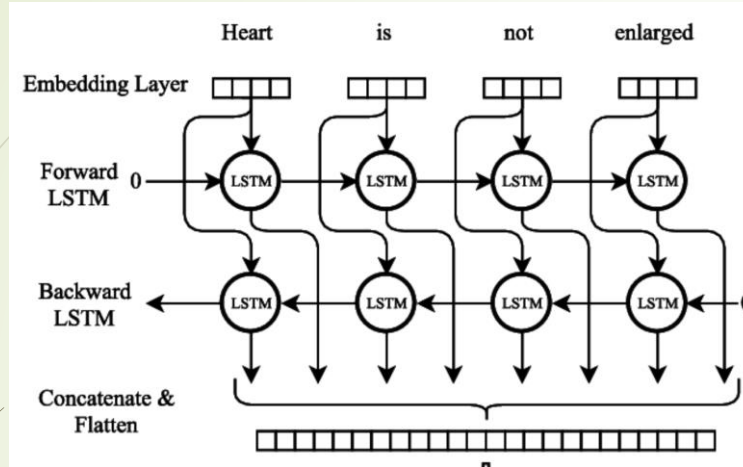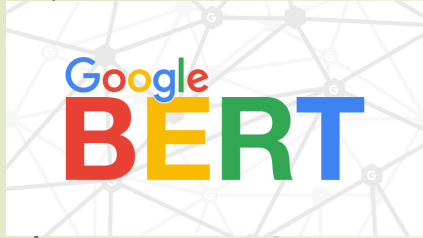# Fake News Classification

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Under the supervision of:
Prof. Kai Shu

Model Architecture
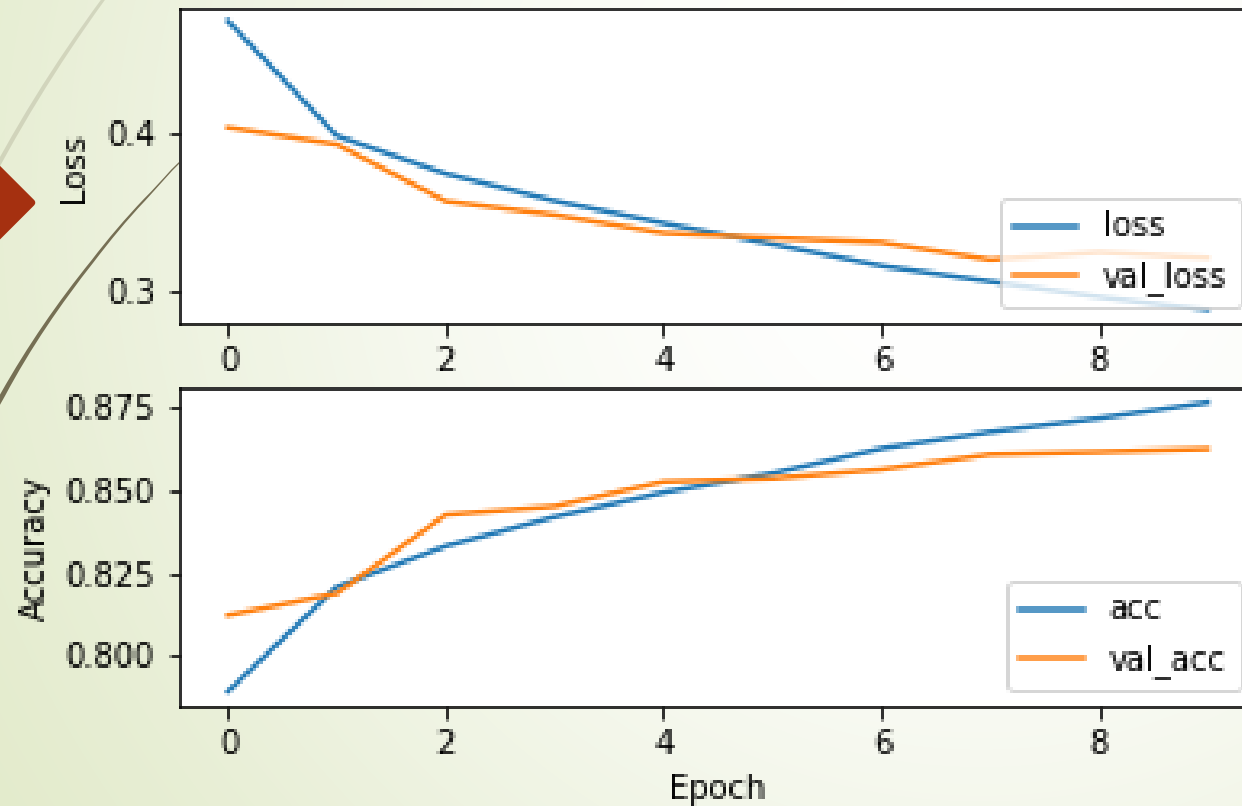

Training Parameters:

- **Epochs** : 10
- **Batch size** : 512
- **Optimizer** : Adam
- **Learning rate** : 1e-4
- **Bert Weights** : Frozen
- **Max length size** : 128
- **Loss** : Categorical Crossentropy

Layer (type)	Output Shape	Param #	Connected to
input_ids (InputLayer)	[(None, 128)]	0	[]
attention_masks (InputLayer)	[(None, 128)]	0	[]
token_type_ids (InputLayer)	[(None, 128)]	0	[]
tf_bert_model_2 (TFBertModel)	TFBaseModelOutputWithPoolingAndCrossAttentions(last_hidden_state=(None, 128, 768), pooler_output=(None, 768), past_key_values=None, hidden_states=None, attentions=None, cross_attentions=None)	109482240	['input_ids[0][0]', 'attention_masks[0][0]', 'token_type_ids[0][0]']
bidirectional_1 (Bidirectional)	(None, 128, 128)	426496	['tf_bert_model_2[0][0]']
global_average_pooling1d_1 (GlobalAveragePooling1D)	(None, 128)	0	['bidirectional_1[0][0]']
global_max_pooling1d_1 (GlobalMaxPooling1D)	(None, 128)	0	['bidirectional_1[0][0]']
concatenate_1 (Concatenate)	(None, 256)	0	['global_average_pooling1d_1[0][0]', 'global_max_pooling1d_1[0][0]']
dropout_112 (Dropout)	(None, 256)	0	['concatenate_1[0][0]']
dense_1 (Dense)	(None, 3)	771	['dropout_112[0][0]']

Total params: 109,909,507
Trainable params: 427,267
Non-trainable params: 109,482,240

Training and Results

```
Epoch 10/10
400/400 [==============================] - 1151s 3s/step - loss: 0.2878 - acc: 0.8767 - val_loss: 0.3209 - val_acc: 0.8626
```


Metrics\Set	Training	Validation
Accuracy	87.67%	86.26%
Loss	0.2878	0.3209

Thank you for your attention

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