FAKE NEWS CHALLENGE
STAGE 1: STANCE DETECTION

FAKE NEWS CHALLENGE - STAGE 1

TEAM

UCL MACHINE READING
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Full implementation

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FAKE NEWS CHALLENGE

GRASS ROOTS INITIATIVE
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> ## GOAL
Explore how AI could be leveraged to combat fake news

> ## PROPOSITION
AI / ML / NLP can help (automate) fact checking

> ## APPROACH
Organise competitions to foster tool development

APPROACH

PROBLEM
Assessing veracity of news stories is difficult

SOLUTION
Break down the process into separate steps

FIRST STEP
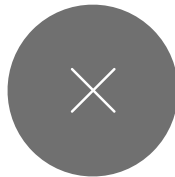Understand what news sources say about a topic

FNC-1
Fake News Challenge: Stage 1: Stance Detection

FAKE NEWS CHALLENGE - STAGE 1
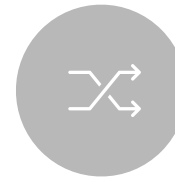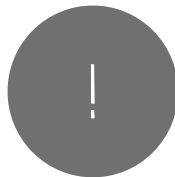
STANCE DETECTION

AGREE

DISAGREE

DISCUSS

UNRELATED

HEADLINE

BODY

The version of the stance detection for FNC-1 extends the work of William Ferreira and Andreas Vlachos

EXAMPLES

! Christian Bale won't play Steve Jobs

≡ Predator drones have started to fly over Raqqa, Syria.

! Her Majesty's magic mushrooms

≡ A type of super-strong magic mushroom has been found growing in the Queen's garden.

! ISIS leader dead?

≡ A US airstrike allegedly killed ISIS leader Al-Baghdadi.

! A Mass Grave Points to a Student Massacre in Mexico

≡ The bodies found in a mass grave were confirmed not to be the missing students.

FAKE NEWS CHALLENGE - STAGE 1

APPLICATION

DISAGREE DISAGREE DISCUSS AGREE

Higher Reputation SOURCE A SOURCE B SOURCE C SOURCE D Lower Reputation

HEADLINE

FAKE NEWS CHALLENGE - STAGE 1
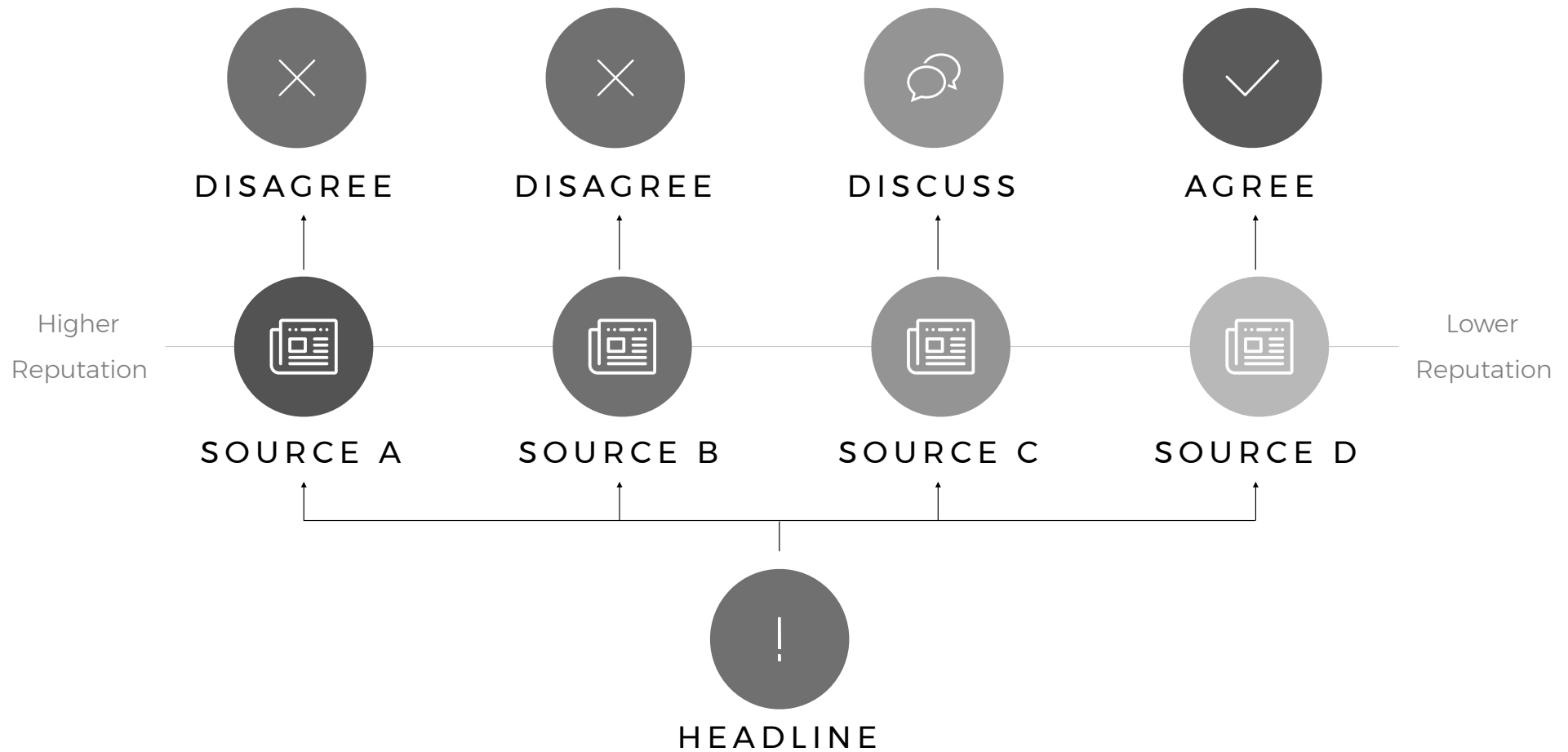
DATA

49,972
DATA POINTS

13,427
'RELATED'

7
2
18
73

- ✓ AGREE
- ✕ DISAGREE
- 💬 DISCUSS
- 🔀 UNRELATED
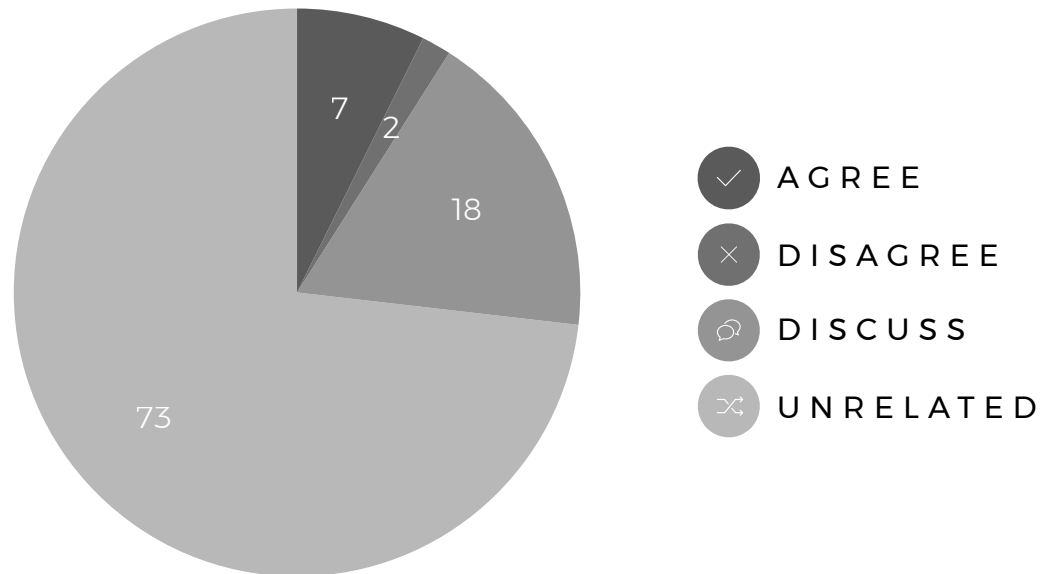
The data is derived from the Emergent dataset created by Craig Silverman

FAKE NEWS CHALLENGE - STAGE 1

MODEL

Agree Disagree Discuss Unrelated

Classification

Neural network with 2 layers

Feature vector

Word frequency features   Similarity feature   Word frequency features

ISIS leader dead?   A US airstrike allegedly killed ISIS leader Al-Baghdadi.

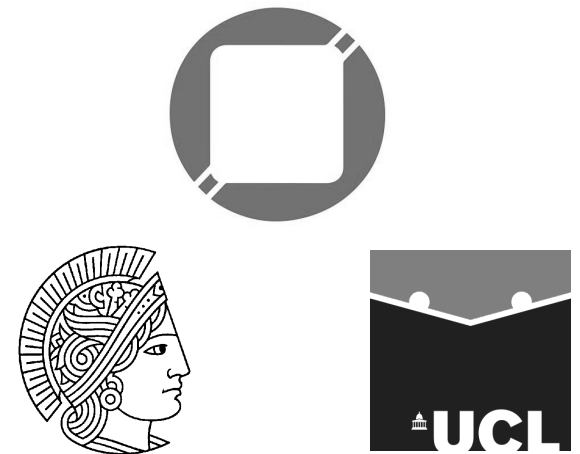Headline   Body
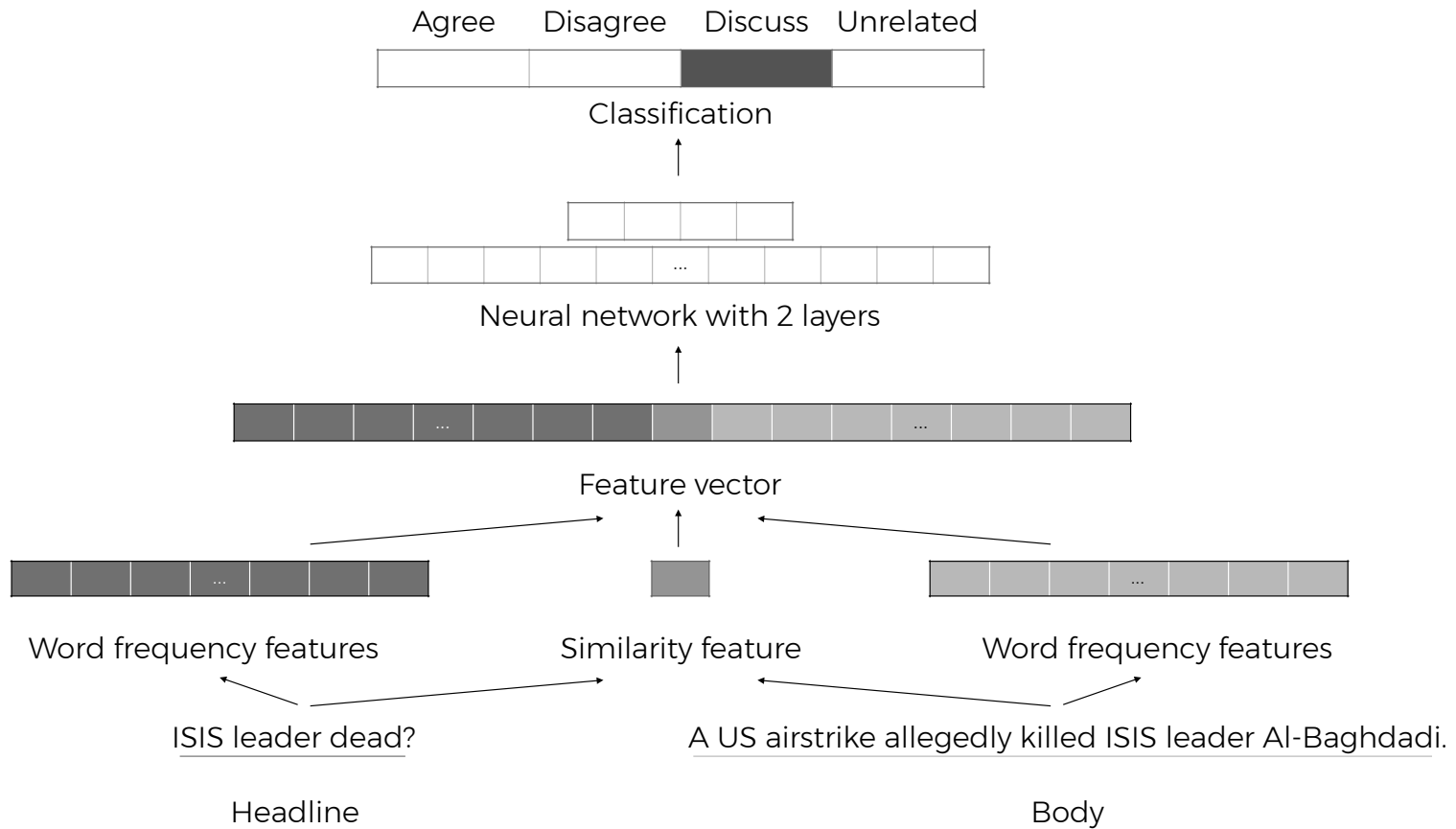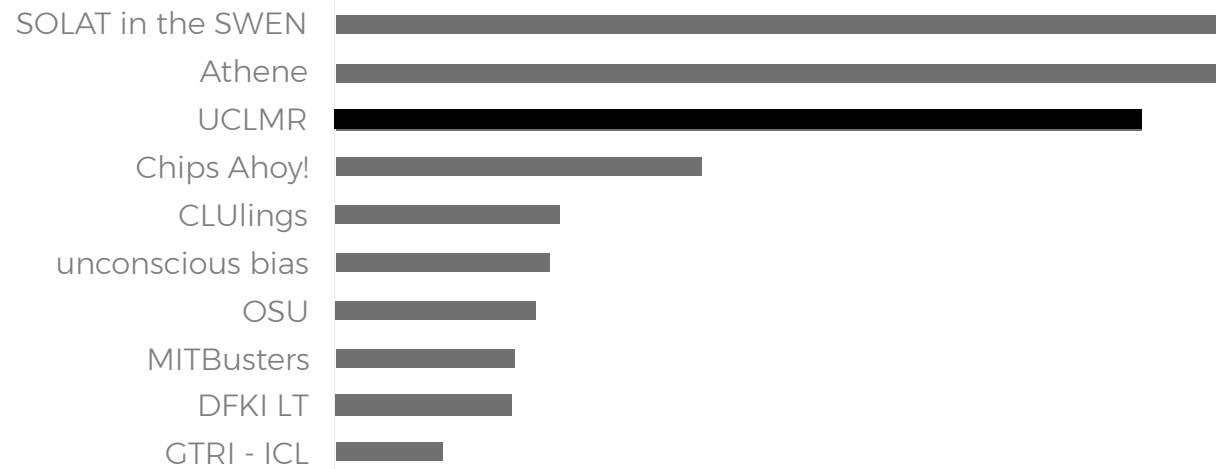
The model is based on the FNC-1 development efforts of Richard Davis and Chris Proctor at Stanford University

FAKE NEWS CHALLENGE - STAGE 1
COMPETITION

FAKE NEWS CHALLENGE - STAGE 1

PERFORMANCE

		PREDICTION				% ACCURACY
		AGREE	DISAGREE	DISCUSS	UNRELATED	
T R U T H	AGREE	838	12	939	114	44
	DISAGREE	179	46	356	116	7
	DISCUSS	523	3	3,633	262	81
	UNRELATED	53	3	330	17,963	98
OVERALL						88

THANK YOU

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