





Replication: Estimating the Ideology of Political YouTube Videos

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Estimating the Ideology of Political YouTube Videos

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Background and Purpose

1. Increasing Influence of Online Media
 2. Previous Work on Ideology Estimation
 1. Political actor
 2. Social Media
 3. Gaps in Existing Research
 1. Rely on static Human-Labeled dataset
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1. Develop a Novel Ideological Estimation Method
 2. Application: Evaluate the presence of echo chambers

Methodology: Video-Subreddit Matrix

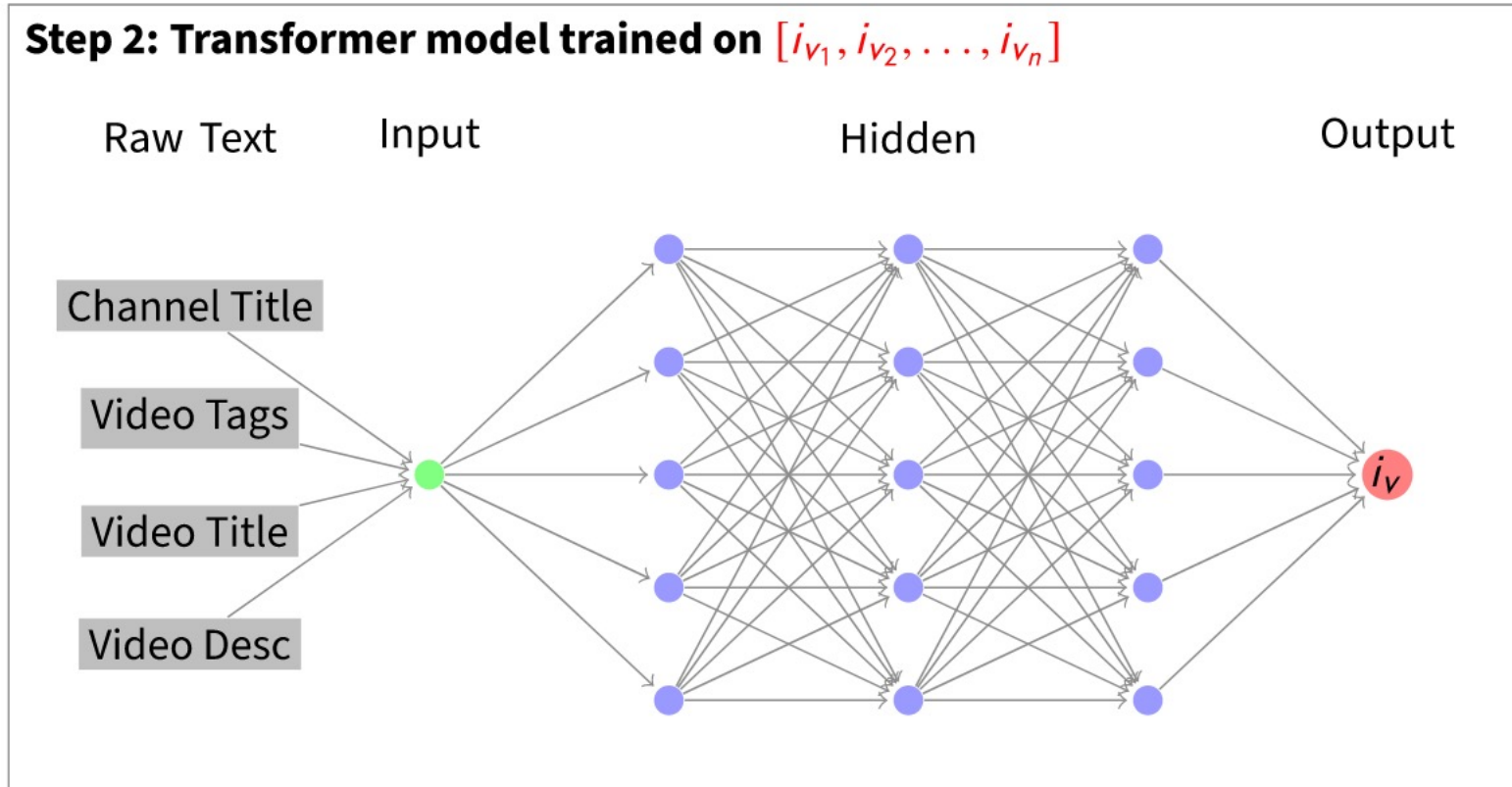
Identifying Political Subreddits

Seed Subreddits + Community Detection $\rightarrow [s_1, s_2, \dots, s_m]$

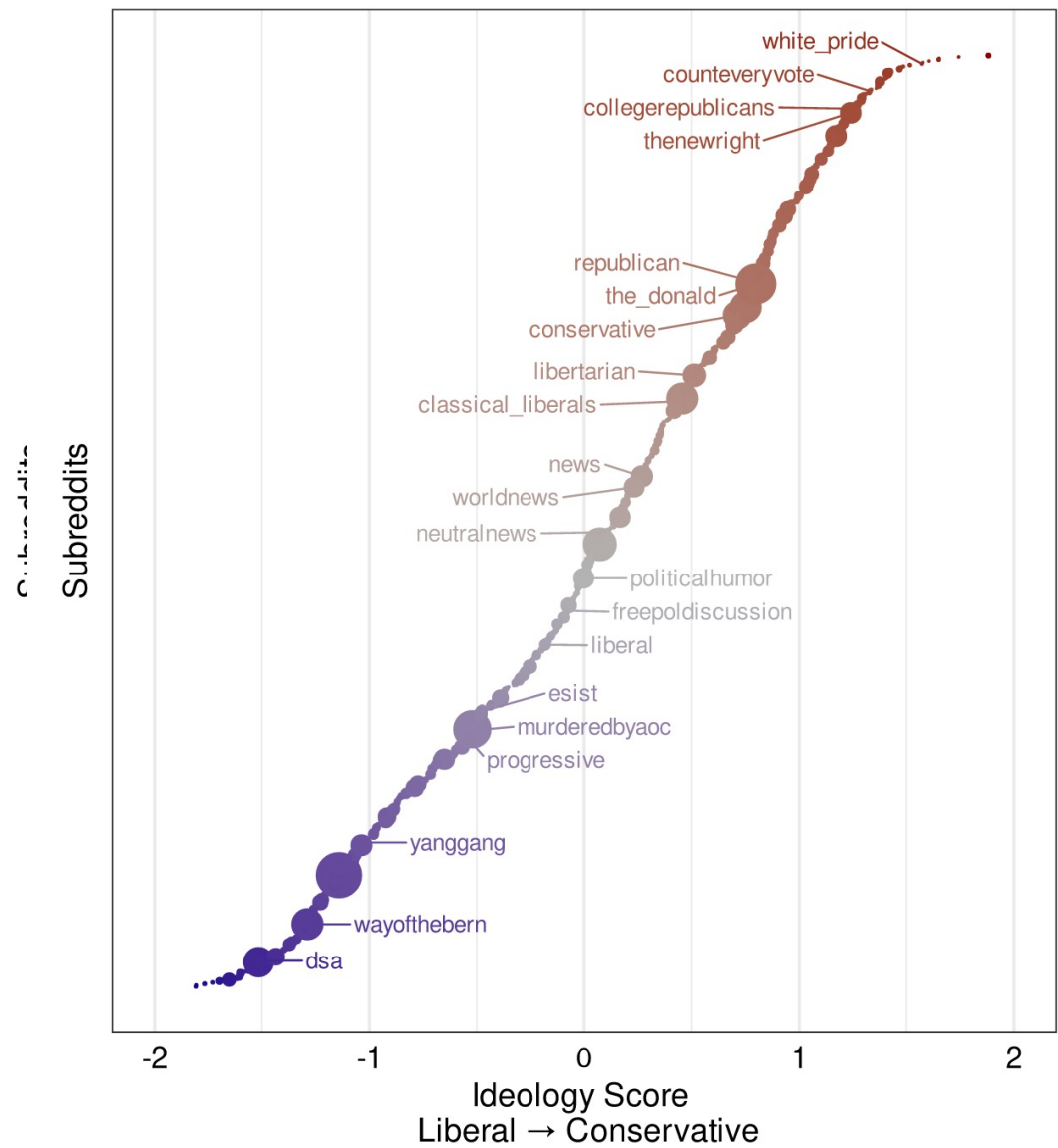
Step 1: Correspondence Analysis on video-subreddit matrix

	s_1	s_2	\dots	s_m		CA ₁	CA ₂		
v_1	3	8	\dots	4	\rightarrow	v_1	.79	-.11	$\rightarrow [i_{v_1}, i_{v_2}, \dots, i_{v_n}]$
v_2	8	0	\dots	4		v_2	-.67	-1.21	
\vdots	\vdots	\vdots	\ddots	\vdots			\vdots	\vdots	
v_n	4	9	\dots	0		v_n	.02	.47	

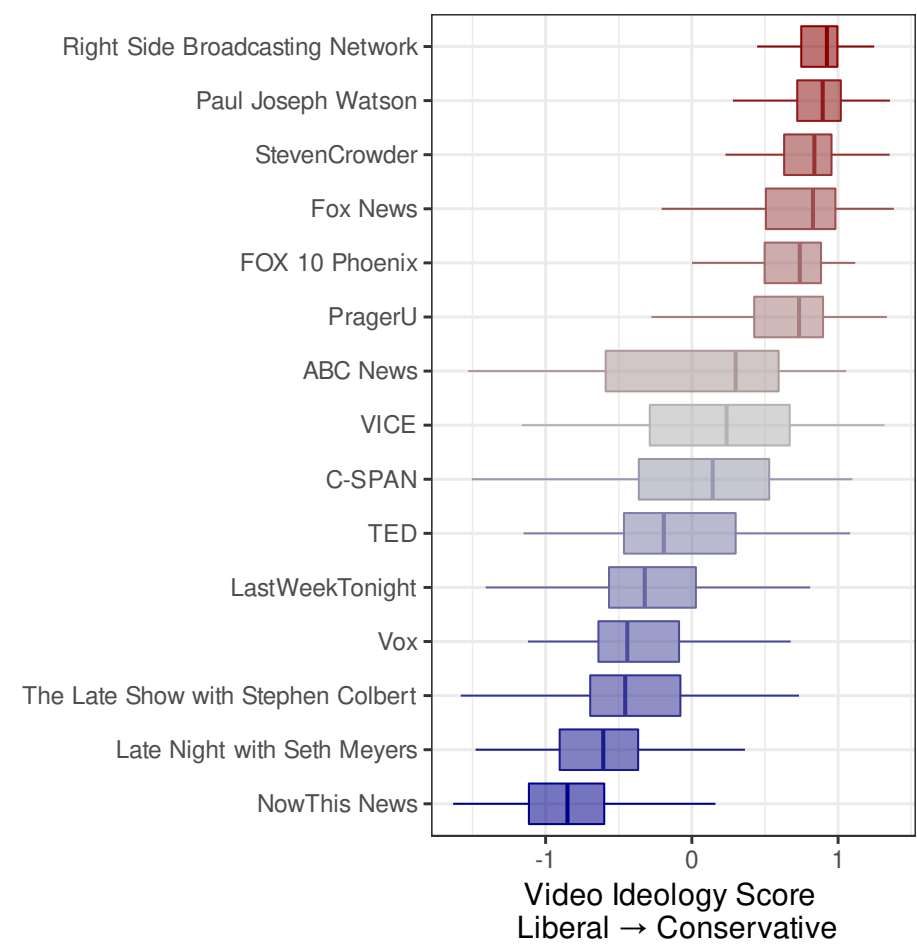
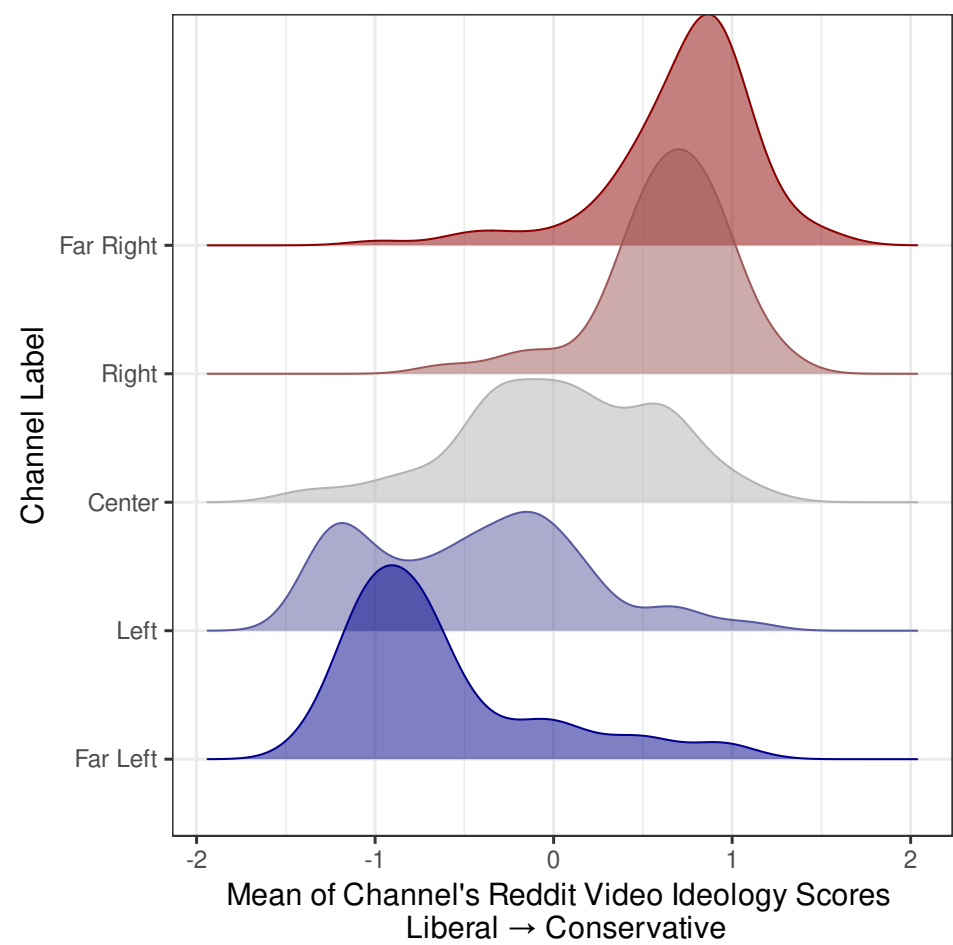
Methodology: Deep Learning Model for Video Ideology Training



Result: Ideology Score based on the Subreddit Matrix

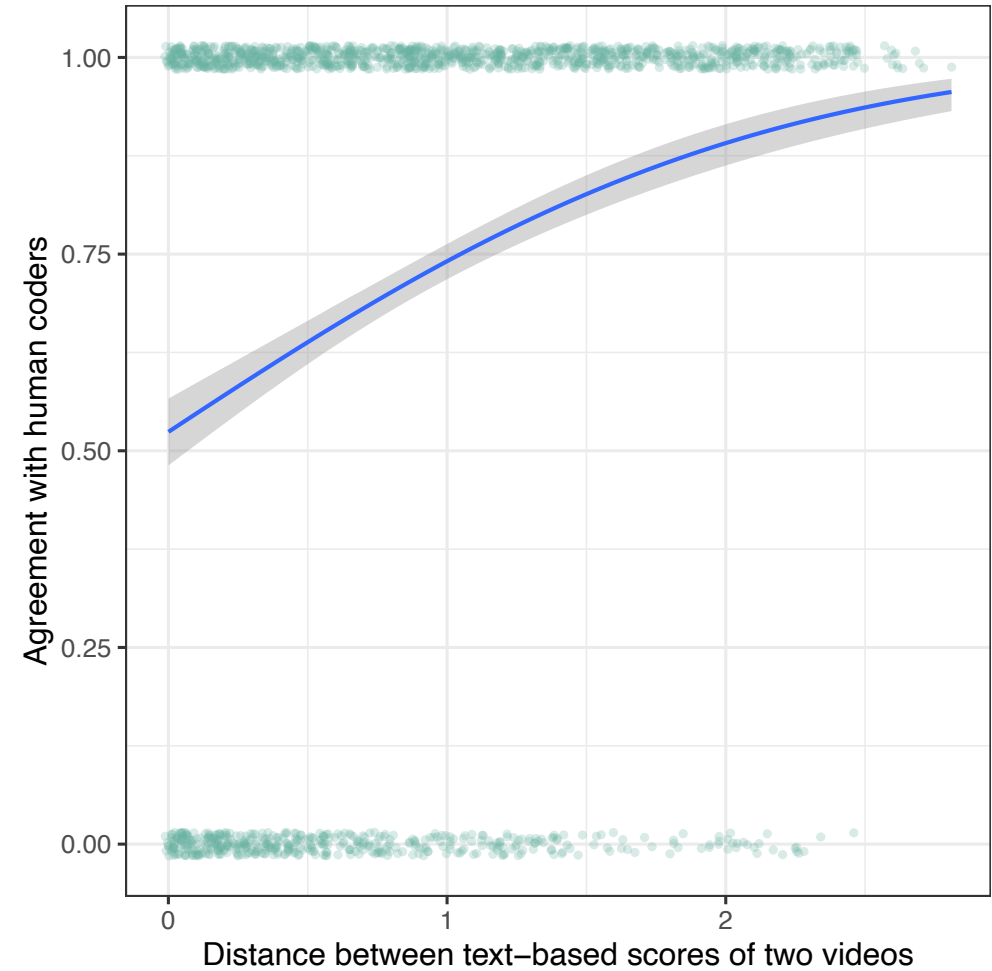


Result: Ideology Distributions

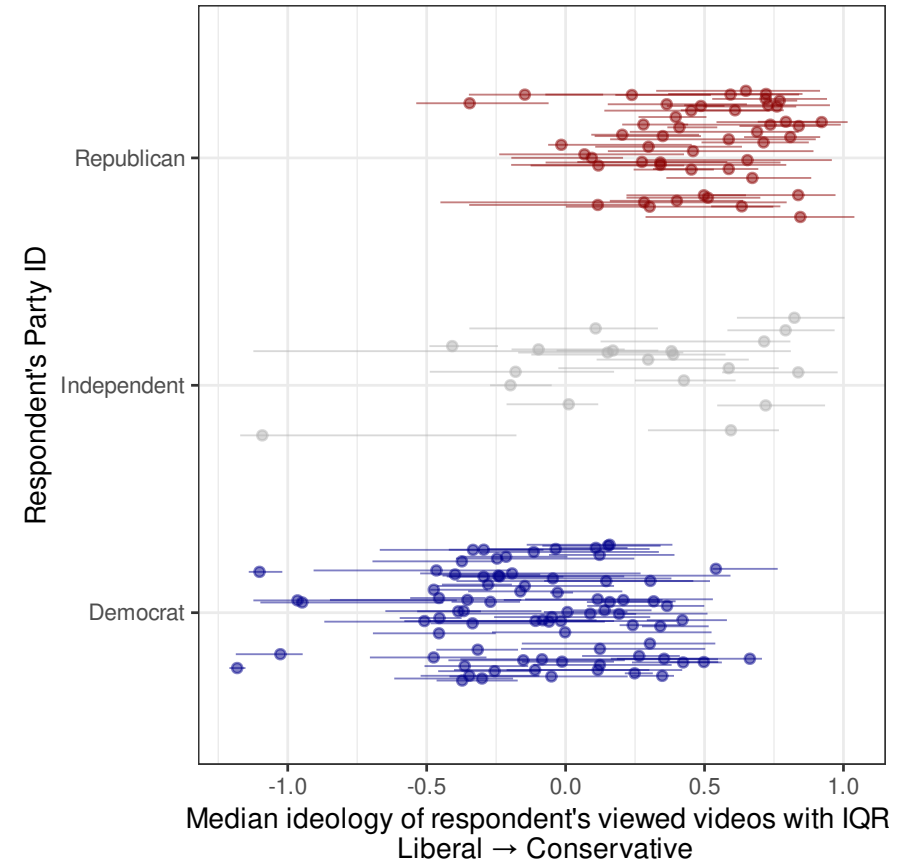
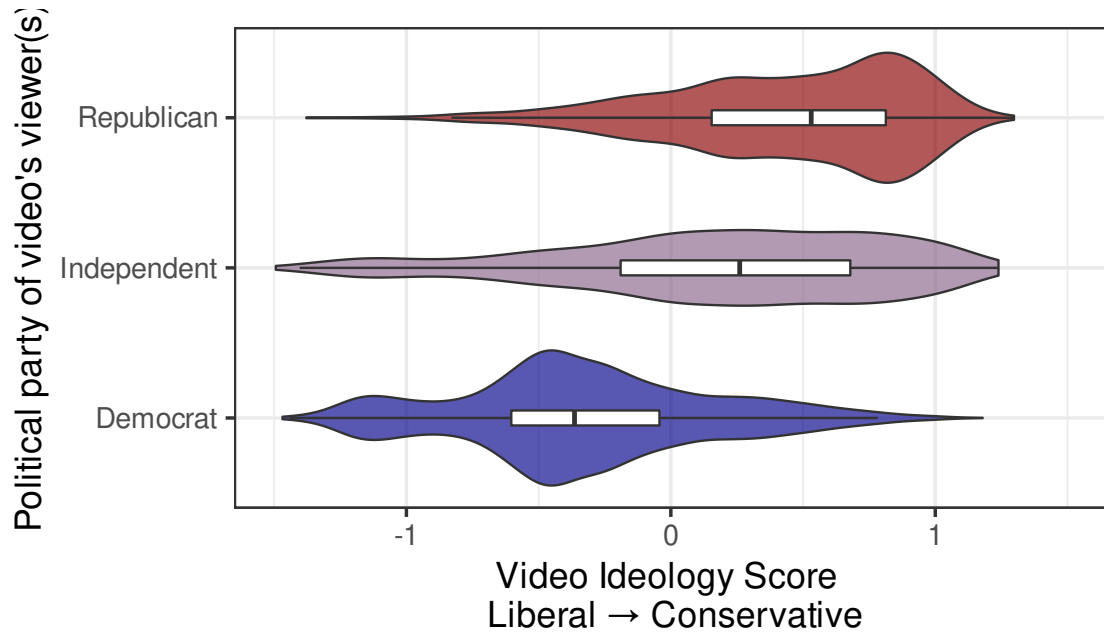


Result: Consistency of Score and Human Coders

Score distance	% Agreement
(0.0,0.25]	54.88
(0.25,0.5]	58.68
(0.5, 1.0]	71.02
(1.0, 1.5]	77.21
(1.5,2.0]	88.94
(2.0,3.0]	88.70



Application: Media Diets and Echo Chambers



My Contribution: Sentiment & Ideology

