Learning from Viral Content

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Abstract :
We study learning on social media using an equilibrium model where users interact with shared news stories. Rational users arrive sequentially and each observes an original story (i.e., a private signal) and a sample of predecessors' stories in a news feed, then decides which stories to share. Sampled news stories depend on what predecessors share as well as the sampling algorithm, which represents a design choice of the platform. We focus on how much the algorithm relies on virality (how many times a story has been previously shared) when generating news feeds. Showing users more viral stories can increase information aggregation, but can also generate steady states where most shared stories are wrong. Such misleading steady states self-perpetuate, as users who observe these wrong stories develop wrong beliefs, and thus rationally continue to share them. Moreover, these bad steady states appear discontinuously.