

Session 59 - A Mathematical Theory of Discursive Networks

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Large-language models (LLMs) turn writing into a live exchange between humans and software. We characterize this new medium as a discursive network that treats people and LLMs as equal nodes and tracks how their statements circulate. We define the generation of erroneous information as invalidation (any factual, logical, or structural breach) and show it follows four hazards: drift from truth, self-repair, fresh fabrication, and external detection. We develop a general mathematical model of discursive networks that shows that a network governed only by drift and self-repair stabilizes at a modest error rate. Giving each false claim even a small chance of peer review shifts the system to a truth-dominant state. We operationalize peer review with the open-source Flaws-of-Others (FOO) algorithm: a configurable loop in which any set of agents critique one another while a harmonizer merges their verdicts. We identify an ethical transgression, epithesis, that occurs when humans fail to engage in the discursive network. The takeaway is practical and cultural: reliability in this new medium comes not from perfecting single models but from connecting imperfect ones into networks that enforce mutual accountability.

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