

The Scientific Reputation System: Past, Present, and Future

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Scientific progress produced by our civilization is deeply intertwined with the contributions of researchers and scholars who dedicate their lives to advancing knowledge. Beyond financial incentives, the scientific community operates primarily by means of a reputation-driven ecosystem that recognizes and amplifies impactful work while discerning works that aren't considered inadequate by the consensus of the scientist of the era. This essay explores the historical evolution of the scientific reputation system, examining its current state and the challenges it faces, as well as plot scenarios forward about how future scientific reputation system could be designed. We delve into the origin and today's state of widely used metrics such as the H-index and i-index, as well as platforms like Google Scholar, ORCID, and ResearchGate, which often serve as proxies for overall scientific reputation. More importantly, we ought to present the case that these systems are not without flaws, as they are increasingly prone to manipulation and fail to capture the full scope of scientific contributions. Finally, we discuss the potential for leveraging technology of the 2020s, specifically AI and Blockchain, to create trustless, robust, transparent, and meaningful reputation systems that address the shortcomings of the current scientific reputation system.