Artificial Intelligence and Academia: Can a Computer Peer-Review?

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Journal.ai, a young Silicon Valley start-up, recently ended a 5 million USD Series A funding round on the premise of building an automated peer-reviewer for academic journals. Their founder, Mora Kamala, believes that "automating peer review in journals will make the process fairer and more objective." Typically, peer reviewers have specialized knowledge that overlaps with the article they review, but may not have the full range of expertise needed to understand cutting-edge research. Revision and critique may focus too specifically on the domain expertise of the reviewers and overlook other areas of the submission.

Kamala asserts that this technology will augment the existing peer-review system, not replace the role of peer-reviewers. She stated that "what [she] want[s] is to create a more rigorous and more equal playing field within academia." Journal.ai leverages the anonymous comments of reviewers of over 20 academic journals, including Nature, Science, the Journal of Public Health, and more. By analyzing both the text of submissions and the reviewer comments, Journal.ai creates a deep learning model that contains broad-context across many disciplines to provide specialized feedback to the submission authors.

As a first review, this system could save reviewers time and limit the need for revisions by providing on-the-fly feedback on submission writing for academics. The technology, however, is still in its early stages. Kamala states that their current artificial intelligence model provides relevant comments with 70% accuracy. With further refinement, she believes that the system could achieve greater than 95% accuracy. Journal.ai plans to release commercially in Q4 2021 in planned partnerships with many journals who are providing them the volumes of data needed to train such models.

AI is rapidly changing the world and, if Journal.ai is successful, affecting more areas than originally anticipated. Intellectual endeavours were often considered resilient or immune to the effects of automation and artificial intelligence, but advances like Journal.ai raise questions regarding how vulnerable even the well-educated may be in the post-AI world.