

Survey Paper on Research Scientist Assistant

Dr. P. D. Bormane, Ayush Sangole, Apeksha Bhosale, Arya Chunne

Department of Artificial Intelligence and Data Science

AISSMS Institute of Information Technology, Pune, India

pradnya.bormane@aissmsioit.org, sangoleyush123@gmail.com,

bhosaleapeksha95@gmail.com, aryachunne@gmail.com

Abstract: *The rapid expansion of scientific publications presents growing challenges for researchers who must locate, evaluate, and verify relevant literature across vast databases. To address these needs, Multi-Agent Systems (MAS) and Generative AI (GenAI) are being developed to automate research workflows spanning literature retrieval, summarization, and verification. This survey paper provides an overview of recent studies that integrate these technologies to support researchers. The paper analyses leading architectures, Retrieval-Augmented Generation (RAG) systems, verification tools, and recommendation mechanisms. Findings suggest that while progress is significant, full end-to-end automation remains limited. Future systems must prioritize transparency, explainability, and user-centred design to truly transform research practices.*

Keywords: Generative AI, Literature Discovery, Multi-Agent Systems, Research Automation, Retrieval-Augmented Generation, Scientific Verification

