

# The Impact of Artificial Intelligence on Innovation

Miss. Tehreen Khot<sup>1</sup> and Mr. Shailesh Sutar<sup>2</sup>

Student, M.Sc. I.T., I. C. S. College, Khed, Ratnagiri, Maharashtra, India<sup>1</sup>

Asst. Prof., Department of I.T., I. C. S. College, Khed, Ratnagiri, Maharashtra, India<sup>2</sup>

**Abstract:** *The current economy's efficiency may be greatly improved by artificial intelligence. We distinguish between automation-oriented applications like robotics and the potential for recent developments in "deep learning" to serve as a general-purpose method of invention, finding strong evidence of a "shift" in the importance of application-oriented learning research since 2009. However, it may have an even larger impact by serving as a new general-purpose "method of invention" that can reshape the nature of the innovation process and the organization of R&D. We suggest that this will likely result in a significant shift away from routine, labor-intensive research and toward research that makes use of the interaction between improved prediction algorithms and passively generated large datasets. In addition, strong incentives for specific businesses to acquire and control crucial large datasets and application-specific algorithms will likely usher in a period of racing as a result of the potential commercial rewards of mastering this method of research. We suggest that in the future, policies that promote transparency and the sharing of core datasets between public and private actors may be essential for boosting research productivity and encouraging innovation-oriented competition.*

**Keywords:** Artificial Intelligence

## REFERENCES

- [1]. Aghion, P. and P. Howitt (1992) "A Model of Growth Through Creative Destruction," *Econometrica*, 60(2), 323-251.
- [2]. Bresnahan, T., E. Brynjolfsson, and L. Hitt (2002) "Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence," *The Quarterly Journal of Economics*, 117(1), 339-376.
- [3]. Bresnahan, T. and S. Greenstein (1999) "Technological Competition and the Structure of the Computer Industry," *Journal of Industrial Economics*, 47(1), 1-40.
- [4]. Bresnahan, T. and M. Trajtenberg (1995) "General Purpose Technologies 'Engines of Growth'?" *Journal of Econometrics*, 65(1995) 83-108.
- [5]. Brooks, R. (1990) "Elephants Don't Play Chess," *Robotics and Autonomous Systems*, 6, 3-15. Brooks, R. (1991) "Intelligence Without Representation," *Artificial Intelligence*, 47, 139-159.
- [6]. Brynjolfsson, E. and K. McElheran (2017) "The Rapid Adoption of Data-Driven Decision-Making,"
- [7]. *American Economic Review*, 106(5), 133-139
- [8]. Griliches, Z. (1957) "Hybrid Corn: An Exploration in the Economics of Technological Change,"
- [9]. *Econometrica*, 25(4), 501-522.
- [10]. Henderson, R. and K. Clark (1990) "Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms," *Administrative Science Quarterly*, 35(1), 9-30.
- [11]. Krizhevsky, A., I. Sutskever, G. Hinton (2012) "ImageNet Classification with Deep Convolutional Neural Networks," *Advances in Neural Information Processing*, 25, MIT Press.
- [12]. Leung, M.K.K., A. Delong, B. Alipanahi, and B.J. Frey (2016) "Machine Learning in Genomic Medicine: A Review of Computational Problems and Data Sets," *Proceedings of the IEEE*, 104(1): 176-197.
- [13]. Marco, A., A. Myers, S. Graham, P. D'Agostino, and K. Apple (2015) "The USPTO Patent Assignment Dataset: Descriptions and Analysis," *USPTO Working Paper No. 2015-02*, 1-53.
- [14]. Marco, A., M. Carley, S. Jackson, and A. Myers (2015) "The USPTO Historical Patent Data Files," *USPTO Working Paper No. 2015-01*, 1-57.
- [15]. Minsky, M. (1961) "Steps Toward Artificial Intelligence," *Proceedings of the IRE*, 8-30. Moky, J. (2002) *Gift of Athena*, Princeton University Press.
- [16]. Nilsson, N. (2010) *The Quest for Artificial Intelligence: A History of Ideas and Achievements*, Cambridge

