A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM

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LITERATURE SURVEY

TITLE	AUTHOR	ALGORITHM	ADVANTAGES	DISADVANTAGES
HANDWRITTEN DIGIT RECOGNITION USING ARTIFICIAL INTELLIGENCE	Sudweeks F J. S. Gero (Ed.). Chrisley, R., & Begeer, S.	ARTIFICIAL INTELLIGENCE	AI drives down the time taken to perform a task. It enables multi-tasking and eases the workload for existing resources. .AI enables the execution of hitherto complex tasks without significant cost outlays. 3.AI operates 24x7 without interruption or breaks and has no downtime 4.AI augments the capabilities of differently abled individuals 5AI has mass market potential, it can be deployed across industries.	1) High Costs of Creation: Machines need repairing and maintenance which need plenty of costs. 2) Making Humans Lazy Humans tend to get addicted to these inventions which can cause a problem to the future generations. 3) Unemployment: Every organization is looking to replace the minimum qualified individuals with AI robots which can do similar work with more efficiency. 5) Lacking Out of Box Thinking Machines can perform only those tasks which they are designed or programmed to do, anything out of that they tend to crash.
HANDWRITTEN DIGIT RECOGNITION USING MACHINE LEARNING	B. W. Silverman, statistical and data analysis B. Sch¨olkopf, J. Platt, J. Shawe-Taylor, A. J. Smola, and R. C. Williamson, Estimating data mining G.R. Shorack and J.A. Wellner, Empirical processes with Conceptual idea, convergence analysis, numerical results	MACHINE LEARNING	1. It is automatic: The whole process of machine learning is machine starts learning and predicting the algorithm or program to give the best result. 2.It is used in various fields: From a very small application to very big and complicated structured machines that help in the prediction and analysis of data. 3.It can handle varieties of data: It is multidimensional	1.Chance of error or fault is more: Although machine learning is considered to be more accurate it is highly vulnerable. For example, a set of programs provided to the machine may be biased or consist of errors. 2.Data requirement is more: The more data a machine gets the more accurate and efficient it becomes thus more data is required to input to the machine for better forecasting or decision making. 3.Time-consuming and more resources required: There can be times when the

			as well as multitasking.	learning process of the machine may take a lot of time because the effectiveness and efficiency can only come through experience which again requires time.
HANDWRITTEN DIGIT RECOGNITION USING NEURAL NETWORK	Dastres, Roza, and Mohsen Soori. 2020a. "Impact of Meltdown and Spectre on CPU Manufacture Security Issues." Review of. International Journal of Engineering and Future Technology	NEURAL NETWORK	1. Effective Visual Analysis The very first advantage of neural networks is that they lead to an effective visual analysis. Since an artificial neural network is similar to that of a human's neural network, it is capable of performing more complex tasks and activities as compared to other machines. 2.Adaptive Structure The third advantage of neural networks is that their structure is adaptive in nature. This means that for whatever purpose an ANN is applied, it alters its course of the structure according to the purpose. 3.User-friendly Interface The last advantage among others is that they portray a user-friendly interface. For any machine or artificial equipment to become a success, its interface and usability of it should be user-friendly.	1.Hardware Requirement Despite their ability to quickly adapt to the changing requirements of the purpose they are supposed to work for, neural networks can be a bit hefty to arrange and organize. 2. Data Suitability Another one of the challenges of neural networks is that they are highly dependent on the data made available to them. This infers that the efficiency of any neural network is directly proportional to the amount of data it receives to process.

HANDWRITTEN DIGIT RECOGNITION USING NATURAL LANGUAGE PROCESSING	L. Tesnière, éléments de syntaxe structurale, Klincksieck, Paris, 1959. M. Thomas, B. Pang, and L. Lee, Get out the vote: Determining support or opposition from congressional floor-debate transcripts, Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP), Sydney, Australia, pp. 327–335, 2006.	NATURAL LANGUAGE PROCESSING	Less expensive: using a program is less costly than employing a person. A person can take two or three times longer than a machine to execute the tasks mentioned above. Faster customer service response times: normally, when NLP is applied, chatbot or call response times are very quick. Usually, call centers have limited staff, which restricts the number of calls that can be answered. By using NLP, a higher call volume can be handled which means client wait times are reduced. Easy to implement: in the past, in order to use NLP, arduous research had to take place regarding the language and many tasks had to be implemented manually..	Training can take time: if it's necessary to develop a model with a new set of data without using a pre-trained model, it can take weeks to achieve a good performance depending on the amount of data. It's not 100% reliable: one of the disadvantages of machine learning is that it's never 100% dependable. There's the possibility of errors in its prediction and results.