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English: Machines taking Electrical Engineering jobs?

**Introduction**

It is very crucial to consider that a coin has two sides. Hence the same applies with the advancement in technology. Advancements in technology do have hugely crucial and good impacts on the world. Technology and innovation in technology have contributed a lot to the growth of the world through the introduction of machines and their consistent advancements. The machines used in one’s daily and personal life as well as machines used in companies or organizations have a positive impact on the life of individuals in many ways. It is a fact that machines are making life easier and comfortable in many contexts. But on the other side, their impacts on individuals are also considered as inverse when it comes to covering human jobs by machines. It is very important to note several machines are taking jobs of human beings but it becomes more critical when considering electrical engineering jobs.

In the current time, jobs in the electrical engineering field are even continuously taking by machines. The electrical engineers are associated with electronics and manufacturing etc. of electric merchandise such as vehicles etc. So, it can be witnessed that a huge number of machines like robots are involved in the manufacturing process of electronic items and mostly they (machines) are taking jobs of electrical engineers. This phenomenon is mostly seen in large scale organizations or companies (Wright, N.P). In short, it is a reality that electrical engineering jobs are being taken by machines in many ways.

**Discussion**

The machines that are taking electrical engineering jobs are mostly robots. As mentioned, those machines take electrical engineering jobs in many ways. Hence, one is that they perform tasks faster thattook us a lot of time to do earlier. Machines do a huge amount of activities and tasks from mechanical combinations to airfare search sites. These machines such as robots are programmed and do not need any human effort or operator. In the electrical engineering field, those machines perform several routine activities that were done only by humans in the past time.

Technology, automation, and advancement in technology are important. The use of technology especially in the field of electrical engineering has tremendously increased the production level and improved the entire process of production. With the help of machines, more work is done in comparison to human productivity and as a result, organizations and companies generate more revenues. On the other side, engineers especially electrical engineers are looking to find ways to fasten the work and production processes in the companies. But they are somehow concerned that looking for things (e.g. machines) which improve and fasten the human work practices may put inverse impacts on their career (ArchiStar, N.P). Electrical engineers especially look for machines because they prefer to speed up their work practices.

It is credible and great to enhance and speed up the work and processes through the involvement of machines and advanced technology, but what does it mean for electrical engineers? History has witnessed that technology and machines have a human impact. This means that people, especially engineers lose most of the jobs because machines perform those jobs faster and better. By thinking about this concern from a business viewpoint,no business or business owner prefer to pay to 50 employees every month or on completion of each project while they absolutely prefer to invest in 3 to 5 machines at once. The cost of machines and other maintenance is also considered by the businesses but adding them to the equation still brings better and faster results for them instead of involving human resources. In short, companies and businesses and the way they introduce machines in the operations especially in electrical departments, push electrical engineers out from their field (Wright, N.P).

A number of studies and their outcomes had predicted in the past and it is still predicted for the future that machines such as robots will lead to job losses especially for engineers. One of the most recent examples come from the Ferrari Motor Company. Around 32 percent of the employees (electrical engineers) who were employed at the company for several years were at risk of losing and most of them lost their jobs. They lost their jobs because the company introduced machines that work on the vehicles assembly and it can be said that it was a huge number of employees (most were the electrical engineers) who lost their job as a result. Beyond that, there are many other jobs (around 650 types of jobs) that are at risk because of the involvement of machines in the organizational operations by companies and businesses around the world. It means that around 43 percent of the jobs in the entire world in the field of electrical engineers are at risk due to the machines.

Proceeding further, it is also a critical question and point to consider that if machines and their advancement leads to loss of jobs of electrical engineers, then why should we keep them improving, enhancing, and developing? It is no doubt a good thing to consider but it is also a fact that there are some credible attachments with the machines because of which no one can eliminate or ignore the use of machines in company or organization. According to (Ketchell, N.P), the good of machines instead of electrical engineers overweighs the bad side up to some extent and that is why no one prefers to stop the advancement and improvement of machines. In short, there are a number of things that machines do better than humans and that is considered as good. Hence some of the most credible ones of those are as follows.

* Performing the boring tasks in a well and productive way which are not taken interested by engineers. Beyond that, machines do a lot of mundane tasks which take a huge amount of time of human labor.
* Machines free up most of the electrical engineers to get involved in other and more important tasks they are involved in.
* Machines are not the sources that make mistake as electrical engineers do in most cases. The human also faces the issues of errors in production and other processes while these issues are not faced by the machines(Ketchell, N.P).
* Speed and accuracy are one of the most valued and credible features of machines that cannot be compared with the engineers.
* The machines and the level of their efficiency improve the production level and quality of operations and activities done by electrical engineers in companies. Additionally, the machines sometimes also help to choose the course of actions as per the nature of operations and position (ArchiStar, N.P).

As discussed earlier, the machines and their use have a lot of contribution to the companies and businesses and that is why machines are taking the jobs of electrical engineers. But it has also mentioned that machines have some inverse or bad points. So, some of the worst and inverse points of machines are below.

As per our main concern, the machines and their use lead to loss of a huge amount of jobs especially the jobs in the engineering field and then specifically the jobs of electrical engineers. Hence, this creates a lot of career problems for the human, particularly for electrical engineers.

Machines get rid of most of the human beings or human elements. As well as machines only rely on the commands and information given to them. While, at the result, there is a huge possibility of errors and associated risks especially in the engineering practices (Will Robots Take My Job, N.P).

Butagain, the way machines impact the jobs of electrical engineers is very important to think about. And it cannot be ignored that it is a reality as well. But there are some tasks that electrical engineers perform and which cannot be done by machines. And that is why it can be stated that electrical engineering jobs are not fully staking by machines. Those activities and tasks of electrical engineers are but not only the following.

1. Designing the electrical components or systems that reduce the requirements of electric energy. Such as the designing of lightening for the purpose of natural lighting.
2. Ensure the installation and inspect the completed installation as well as observe the operations and performance of machines to design and equip machines as per the required standards. They also ensure safety and environmental standards.
3. Estimate and finalize the labor, material, and costs of construction for the process of budget preparations. As well as investigate each and every complaint regarding any electrical problems or any other issue occur in the processes.
4. Develop and improve the systems which generate electricity through the use of advanced and new energy sources like wind and solar etc. Beyond that, they also compile data and information for the purpose of performing and finalizing electrical engineering projects and studies.
5. Consult the engineers and with the organization and conducting different field surveys like developing study maps, diagrams, and graphs, etc. for the identification of problems regarding the existing power systems. While preparing specifications of the electrical systems and other electrical drawings maps to make sure the installation and operations of electrical systems and operations for the production procedures and processes. Besides, electrical engineers are also concerned with the analysis of specifications of different electrical engineering products and equipment and this task can never be done or performed by machines or robots no matter how much they have been advanced.
6. The main function of electrical engineers is to coordinate and direct construction, installation, manufacturing processes, maintenance, support, and any other activity for the purpose to comply with the code, specifications, and customers and production requirements. While this cannot be done by any of the machines involved the in activities of electrical engineers (Will Robots Take My Job, N.P).
7. Performing several calculations and analysis for computing and developing manufacturing, installation, and construction standards. As well as plan and implement the research methodologies and new processes in the field of electrical engineering.
8. Operate computer-assisted engineering and other design software or equipment to perform many electrical engineering tasks and operations.

In fact, like some other sectors and fields, several numbers of jobs have been covered by machines (machines such as robots) because machines in those fields have got a huge advancement since last years. Hence, the same happened in the field of electrical engineering. machines are taking a sum of the number of jobs as they develop and arise with the time (but as discussed above, not every job of electrical engineering has been covered or taken by machines). Since 1982, around 41 percent of the jobs in the electrical engineering field has been taken by machines. they jobs have been covered (taken) by machines through the process that machines have been employed for a number of electrical engineering activities instead of employing electrical engineers. But at the result, more than 2.5 percent shares of the industry have fallen due to much dependence on machines instead of engineers. Beyond that, because of employing machines instead of electrical engineers, the jobs of electrical engineers also became smaller up to some extent. Finally, on one side, machines cannot and do not take all of the jobs of electrical engineering but the involvement of machines has an inverse impact on the availability of the jobs for electrical engineers (Ketchell, N.P).

**Conclusion**

After in-depth analysis of every aspects of the concern under the discussion “Machines are taking electrical engineering jobs”, it has been concluded that there is only a few percentage and possibility that not all jobs will be taken by machines.Every task of jobs in the field of electrical engineering cannot be performed and completed by machines e.g. robots. So, it can be concisely concluded that machines are not fully taking electrical engineering jobs. While the implementation and involvement of machines in the electrical engineering field and the end impact on the jobs of electrical engineers are considered as inverse and even negative. In other words, the problems which are created due to the implementation of machines in electrical engineering lead to the economic problems on both local and global level. so very concisely, it is very important for electrical engineers to be highly productive and every skill needed so that they can be valued and employed instead of machines even machines offers speed, precision, and momentum because these things cannot be compared with strategic thinking, enhancing and bringing innovation, critical thinking, ensuring improving an advancement in practices and processes, etc.

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