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STAGES OF SELECTION OF CONTROL TECHNOLOGY IN THE AUTOMATION OF THE CONTROL SYSTEM OF ROBOTS

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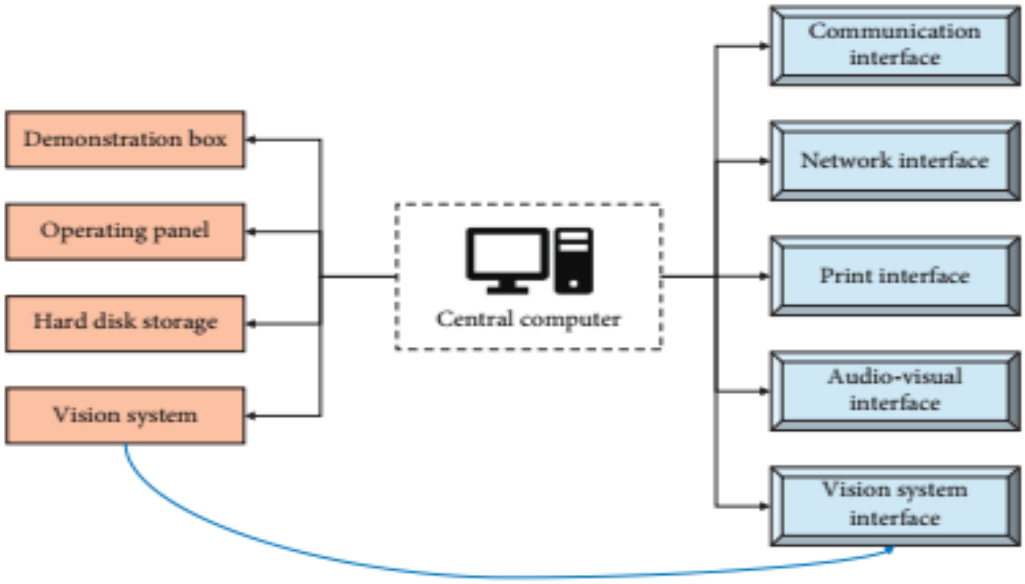
Abstract
A technologically advanced industry is at the heart of the country's development, and robotic automation is the key to this. Automation of industrial networks robots are a very useful and effective method for industrial development. Although the Republic of Uzbekistan is increasing its investment in industrial robots automation and control research, there are still many problems in the field of automation and control in application and I believe that there is still a certain gap between industrial robot technology and developed countries. On the one hand, it is serious the Republic of Uzbekistan hinders the development of industrial robotics, and on the other hand, it directly affects automation. Some of the Republic of Uzbekistan I believe that the main problems in industrial production, which have a very limiting effect on industrial development, are the oldness of the technological system. Therefore, it is important to pay attention to the value computer technology, automation control technology and sensor technology in the field of automation should be introduced. Industrial use Robots will be able to replace labor, reduce the intensity of operations and increase high labor productivity. In the technological system operational accuracy values are becoming important. It would not be wrong to say that scientific progress will bring the development process of industrial automation to a new stage. allowing fully automated production equipment to become mainstream and gradually replace manual operations. In recent years, the development of industrial automation has led to the development of a number of related industries, among which automation manipulators are based on one complete system based on an automated system. The development of manipulators as new automatic production line operating equipment can be huge and serves to increase the level of automation of production of enterprises and increase labor efficiency. this article examines the state of technological process development and researches have been cited that have investigated the optimal path of manipulators in automatic control engineering by integrating automated manipulators. If we want these technological processes to develop, we must ensure that the automation of processes in the industrial sectors of the Republic of Uzbekistan is controlled by technological processes and create opportunities for their activity.

Keywords: Automation of technological processes, artificial intelligence, robotics, technologically automated applications, industrial robots

Introduction

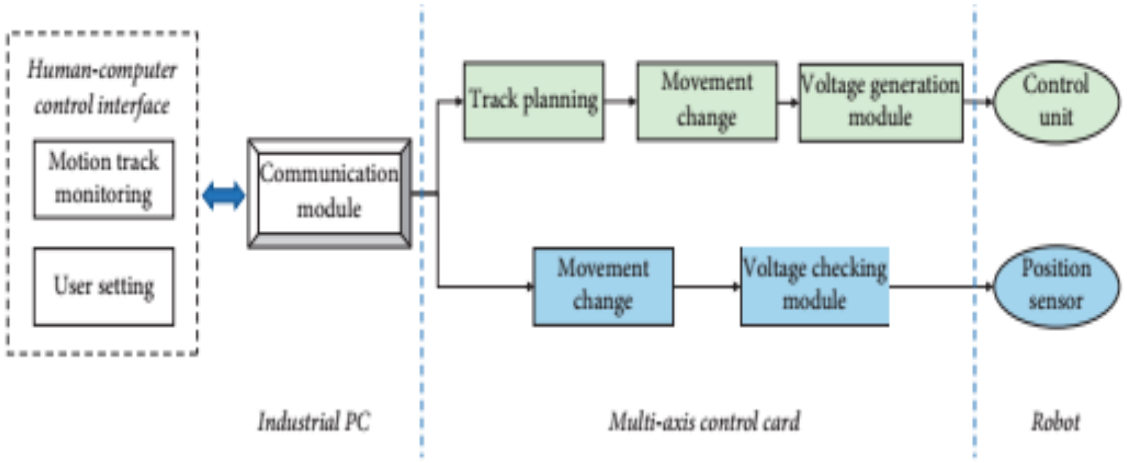
Economy of the Republic of Uzbekistan in recent years continued to grow, science and technology also developed rapidly. This economic power of a country cannot be measured, only economic power and extensive use of new technologies such as industrial robots have implemented important matching processes to measure the level of automation. To ensure that industrial sectors have robots widely used, detailed announcements by relevant enterprises technical conditions and opportunities for the

development of industrial robots are established. This promotion of various practical technologies and politics, the era of industrial robots is accelerating in the Republic of Uzbekistan and the future of industrial development is more feasible. In the context of the important stage of the Republic of Uzbekistan development of industrial production and urgent need changing many traditional industries, industrial robots it can effectively help to change and optimize and modernize the industrial development of Uzbekistan and we provide technology development in many areas. It can speed up industrial efficiency and controlling production, human resources and production costs and expanding production efficiency the activity of enterprises will be improved. As an important part of automation production line, industrial robots are increasingly used and by now is being used more widely. Study of motion control systems for industrial robots to ensure accuracy of robot movements the inevitable trend in the current development of automation has been introduced, and all conditions have been created for the development of technologies. High-performance digital processors play an important role in motion control systems and ensures their good performance in terms of stability and speed. At the same time, the development of the industrial ethernet network technology is becoming more and more advanced and its advantages such as high speed, efficiency and strength the ability to transfer information in an industrial environment ensures accurate and rapid implementation. Development of industrial robots in the Republic of Uzbekistan in recent years gradually shifted to research areas in various fields and research is being done on the management and control of a wide variety of technological processes, such as computers and artificial intelligence. Artificial intelligence technology and other areas of technology development are close, so combination and reform artificial intelligence technology and industrial automation can effectively increase the national level of technology and industrial information processes should be considered as the main source of improvement of technological processes. At the same time, it is fast development of the level of informatization of the industry to a certain extent stimulated the development of the industry and technological processes automation has created vast opportunities for industry. The development trend of industrial automation is getting stronger and stronger international community, showing that this is also the development area and prospects of industrial automation caused a very wide development. Industrial robots focus on the intersection and synergistic development of several disciplines such as core computer technology, intelligent control. Automation there are many studies based on technology and automatic control theory. That is why, development of the application of industrial robotics is important indicators and tools for measuring development is a method of national industrialization. To a certain extent, the development of the engineering industry there is information technology and intelligence contributed to the development of industrial robots and automated manipulators. At the same time, with an ever-increasing requirement for the efficiency and accuracy of automated production, motion control technology also faces great challenges. In recent years, with the rapid development of microelectronics technology, the processing power of microprocessor products is getting stronger and stronger meets the requirements of traffic management. Traffic management technology research in foreign countries started earlier and development is developing at a more mature level. Currently, applications that manage and control technological processes are also attached to automation software. Industrial robots are smart, programmable, and intelligent devices that are pre-programmed and systemized to operate automatically. Basically, robot control is closely related to dynamics and mechanism.



Picture 1. Development of robot control system and software system of automation.

Mechanics and various coordinates are used for accuracy and the position of the robot's arms and legs is described. In addition, a robot can follow human will, computer-coordinated independent servo system and can be and relevant job content is given. As a result, industrial robots, like people, are a known system tasks and can make independent judgments and decisions about the work environment and work objects and it is necessary to determine the logic of work. We can replace people in everything they do we will need to take measures to reduce complex, dangerous and repetitive manual work. This step-by-step improvement process of Uzbekistan level of production and industry, power the manufacturing industry is growing, one of the most exemplary representatives - will be a great impetus in the development of the automobile industry. This the automotive industry is gradually moving towards flexible, extensive use of manufacturing and intelligent manufacturing systems is necessary. In this field industrial robots occupy a large part of the application of automated weapons and represent, the automated stage of industrial robots will depend on the development of this technology. For example, some intelligent algorithms or models can be used in construction and manufacturing. The robot looks like a human, hand and able to perform certain actions accordingly it is based on a program that can act with a human hand and follow the given input program. The use of robotic arms defines the point at which research is conducted automation in one direction has become a thing past Humanity has used robot technology to integrate intelligent control technology with computer control systems and for the further development of other relevant advanced sciences the height of smart manufacturing. Industrial robots are devices with many degrees of freedom, usually requires three to five degrees of freedom.



Picture 2. Robots Automation Control Research and Results.

Different degrees of freedom can be combined to form, a variety of multivariable control systems that allow an industrial robot to represent different arm and leg postures coordinates and coordinates can be changed and selected. This to ensure the proper operation of industrial robots with human desires they are controlled by computers and controlled by reason. Current industry under normal circumstances robots are able to regulate their movements in different ways there are methods and ways to standardize their execution.

Conclusion

Although robot technology is not yet widespread in the Republic of Uzbekistan, standard of living and well-developed industries. The importance of robotics in Uzbekistan can be seen from this recognized as an advantage in industrial production and it can be used in a wide range of applications, both widely used in industrial production and everyday life. Robotics is one of the most widely used and actively studied technologies in the modern era, robotics is one of the uses. Signs of the industrialized level of Uzbekistan are the use of technologies industrial robotics is common in automated manufacturing and gave many benefits to industrial production. This is article research examines the simulation control algorithm during and we watched the process of manipulator operation. A simulated annealing algorithm and neural network learning are used for optimization and trajectory of the manipulator to get the shortest based on motion trajectory data. Finally, neural network and PLC control combined to optimize system tool behavior of the manipulator to achieve the shortest movement time and the highest efficiency was achieved. However, due to limited capacity, a number of extensions have not yet been completed, so in the future research can be conducted in the following areas. Otelbayev Azizbek, a student of the Nukus Mining Institute under Navoi State Mining and Technologies, has conducted several studies on the management and control of technological processes. The main goal of the research will be to increase the performance indicators of the technologies used in the enterprise. The transfer of technologies in mining enterprises to an automated system and their optimization will be a new stage in the development of technologies. Azizbek is highly interested in processes in mining enterprises.

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