**HARDWARE REQUIREMENTS**

**1. PROCESSOR : INTEL CORE PROCESSOR**

The Intel Core processor is a type of microprocessor that uses advanced technology to perform high-speed calculations and data processing tasks. It consists of a number of components, including a control unit, arithmetic logic unit, and cache memory, all of which work together to execute instructions and perform complex computations.

**2. RAM : 8GB**

RAM (Random Access Memory) is a type of volatile computer memory that stores data and program instructions temporarily while the computer is running. The working of 8 GB RAM means that the computer system has 8 gigabytes of RAM installed. The RAM capacity determines how many programs can be run simultaneously and how quickly the system can switch between them. When a program is executed, it loads into the RAM, which provides fast access to the program data and instructions.

**3. HARD DISK 256GB**

The hard disk drive is a non-volatile storage device that stores and retrieves digital information by using rapidly rotating disks that are coated with magnetic material. It consists of one or more platters that are mounted on a spindle, and read/write heads that move across the platters to read or write data.

**4. WEB CAMERA**

A web camera, also known as a webcam, is an electronic device that captures video and images in real-time and sends them to a computer. In the context of the proposed algorithm, the web camera captures the video sequence of the hand movements and sends it to the software system for further processing.

**SOFTWARE REQUIREMENTS**

**1. PROGRAMMING LANGUAGE: PYTHON**

The proposed algorithm described in this paragraph is implemented using a software-based approach, and Python is one of the programming languages that can be used to implement it. Python is a popular high-level programming language that is widely used in the field of machine learning and computer vision. It has a large and active community of developers who have developed many useful libraries for machine learning, image processing, and computer vision.

In this proposed algorithm, Python may be used to implement the image processing tasks such as detecting coloured objects in video sequence, applying background subtraction techniques, and applying the DNN algorithm for gesture recognition. Python may also be used to implement the machine learning aspects of the algorithm, such as training the DNN model on a dataset of labelled hand gestures. Python's ease of use and flexibility make it a popular choice for implementing computer vision and machine learning algorithms. It also has a large number of libraries and frameworks available that provide useful functionality for these tasks, such as OpenCV for image processing, TensorFlow and PyTorch for machine learning, and Keras for building neural networks. Overall, the flexibility and rich library support of Python make it a popular choice for implementing the proposed algorithm.

**2. IDE : PYCHARM (or) JUPYTER NOTEBOOK**

The paragraph describes a proposed algorithm for gesture recognition using computer vision techniques and deep neural networks. Jupyter Notebook, on the other hand, is an open-source web application that allows users to create and share documents containing live code, equations, visualizations, and narrative text. It is commonly used in data science and machine learning workflows for interactive coding, data exploration, and collaboration.

In the context of the proposed algorithm, Jupyter Notebook could be used to write and run Python code for implementing the computer vision techniques and training the deep neural network. The notebook's interactive interface would allow the user to easily modify the code and experiment with different parameters, and the ability to mix code with narrative text and visualizations would make it easy to document and communicate the results of the algorithm. Overall, Jupyter Notebook could be a useful tool for developing and testing the proposed algorithm for gesture recognition.