

Enhanced Automaton Monitoring Method on Satellite Receiving Position

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ABSTRACT

Security is an essential need of system and it is one of center innovation of remote controlled system. Robot checking arrangement of sea remote detecting satellite getting station incorporates robot, distributed computing system and remote terminals. Robot procures continuous picture of controlled system and works it; distributed computing system fabricate visual choice subsystem to recognize the objective utilizing wavelet change calculation, neural system calculation and learning database of components video of particular natural; utilizing remote terminal manager watches the controlled system through its scene test system and control robot to work it remotely. Utilizing innovation of the pseudo-irregular number secret word, innovation of shared verification to counteract cloning site, innovation of change between the picture of controlled system and its status code and innovation of transformation between operation codes and operation guidelines, the security quality of the robot observing system is enhanced incredibly.

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1. INTRODUCTION

Ocean Remote Sensing and Information Technology Laboratory is remote detecting information stage manufactured together by my college and an examination foundation of the State Oceanic Administration. Both of information trustworthiness and information security are of fundamental significance [1]. The system is completely programmed operation framework, however in some cases during the time spent programmed running, impedance signals because got information inadequate so remote detecting information stage requires manual mediation [2]. Because of lack of research center work force there happens incidentally deficient gathering information. We have accomplished beginning outcomes that we have contemplated tentatively robot observing arrangement of sea remote detecting satellite accepting station [3].

Hotspots of research are Video pressure and coding innovation, video arrange transmission innovation, video stockpiling and recovery innovation, target acknowledgment and following innovation, movement location and cautioning innovation [4]. It is the use of multidisciplinary cross research field, covering the data hypothesis, correspondence hypothesis, coding hypothesis, video/picture handling and comprehension, machine vision, design acknowledgment, data security, organizes building, optical designing, and so forth. Issues deserving of examining of video observing are open and interminable [5].

Robot monitoring system of sea remote sensing satellite getting station not just recognizes the video content and can deal with the anomalous status, in the event that it can't precisely distinguish video substance and handling the irregular status it can counsel with staff on obligation through a remote terminal, in this way

lessening the power of the work remotely staff on obligation, diminishing upkeep expenses of controlled framework [6]. Land use and land cover classification of LISS-III satellite image using KNN and decision tree is discussed in [7]. Combine technique for classification of IRS P6 LISS-III satellite images is explained in [8]. Quality of service (QoS) for multiservice applications over integrated satellite and terrestrial networks using admission control system with multipath selection capabilities. The algorithm exploits the multipath routing paradigm over LEO and GEO satellites constellation in order to achieve optimum end-to-end QoS of the client-server Internet architecture for HTTP web service, file transfer, video streaming and VoIP applications. The proposed multipath scheduler over the satellite networks advocates load balancing technique based on optimum time-bandwidth in order to accommodate the burst of application traffics. The method tries to balance the bandwidth load and queue length on each link over satellite in order to fulfil the optimum QoS level for each traffic type. Each connection of a traffic type will be routed over a link with the least bandwidth load and queue length at current time in order to avoid congestion state. The multipath routing scheduling decision is based on per connection granularity so that packet reordering at the receiver side could be avoided [9].

2. SYSTEM DESIGN

As appeared in Figure 1, Robot sensing system of ocean remote sensing satellite accepting station incorporates robot, distributed computing systems and remote control terminal. Robot is comprised of the primary controller, locator subsystem of the controlled system status, remote correspondence module, encryption and decoding module, Login Module, scene test system of controlled system and different parts. Finder subsystem of the controlled system status catches video progressively. Distributed computing framework is made out of a visual choice subsystem, database of video Knowledge the components of the particular condition, database of video clasps, etcetera.

Remote control terminal comprises of remote login module, encryption and decoding module, scene test system of the controlled system.

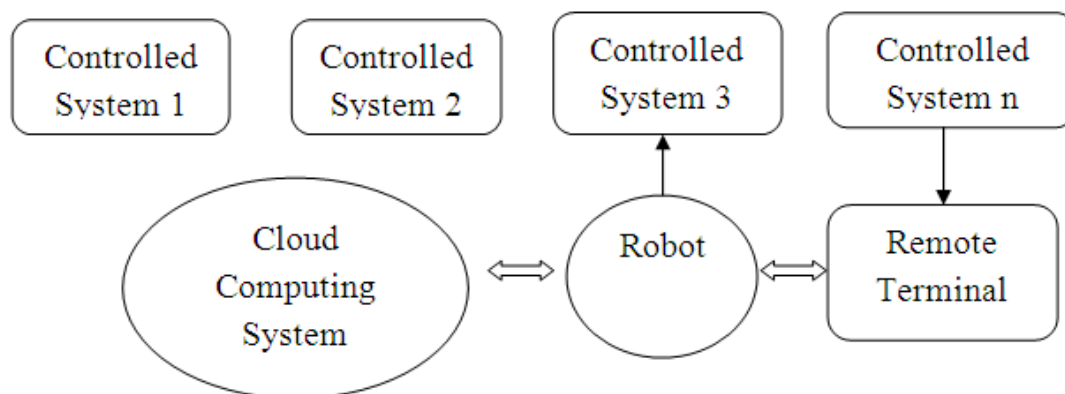


Figure 1. Schematic Diagram of Remote Monitoring System

Robot monitoring system of sea remote detecting satellite accepting station incorporates robot, distributed computing framework and remote terminals. The primary controller of the robot utilizes a cortex A9 improvement board. We redo Linux working system and grow genuine - time video catch programming in the Cortex A9 improvement load up. Distributed computing framework utilizes the Lenovo tower servers Think Server TS540. It comprises of mechanical vision choice subsystem, information database of video elements of particular condition and database of video clasps. Visual choice subsystem parts video, removes key edges, examines the picture, extricates includes and distinguishes the objective utilizing wavelet change and neural system calculation. Remote control terminal uses Microsoft Surface Pro 3, which comprises of scene test system of the controlled framework, a remote login module, encryption modules and unscrambling modules.

3. RESULT AND DISCUSSION

Work process of robot observing arrangement of sea remote detecting satellite getting station is appeared in Figure 2. After instatement locator catches status picture of controlled system, then visual choice

subsystem parts video, separates key casings, breaks down picture, removes highlight and recognize the objective with use of wavelet change calculation, neural system calculation and information database of elements video of particular ecological. Robot decides if the controlled system is working legitimately. Robot handles disappointments itself; scene test system of controlled system changes over status scene picture of the system into status code of controlled system; Encryption and unscrambling module scrambles status code of controlled system.

Condition of disturbed controlled system is shown in Figure 2. Extracted features of disturbed system are shown in Figure 3. The black stripes represent the controlled system is disturbed, Satellite ground station can't normal receive satellite image information. Robot adjusting the controlled system is shown in Figure 4. Controlled system returned to normal is shown in Figure 5.

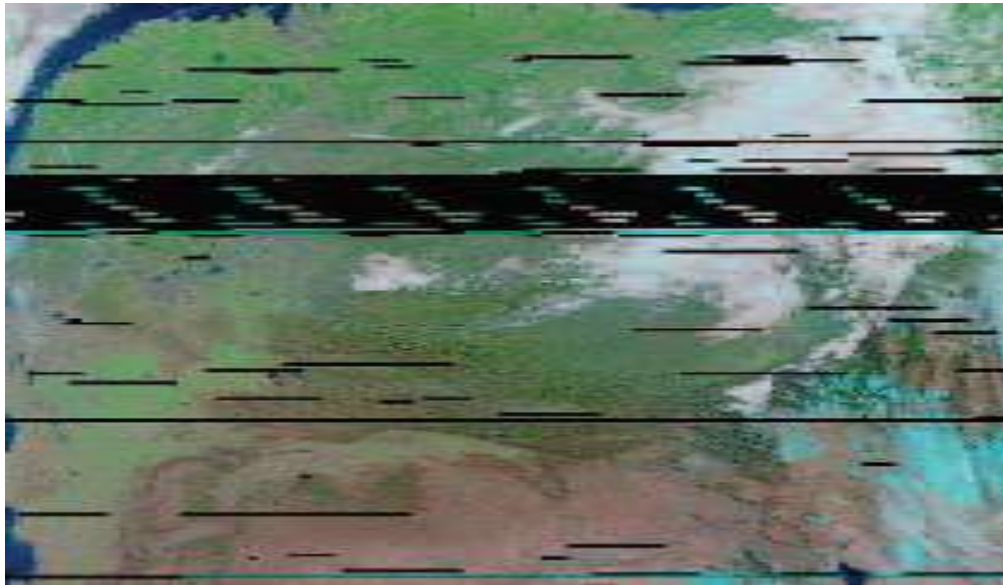


Figure 2. Controlled system condition disturbed

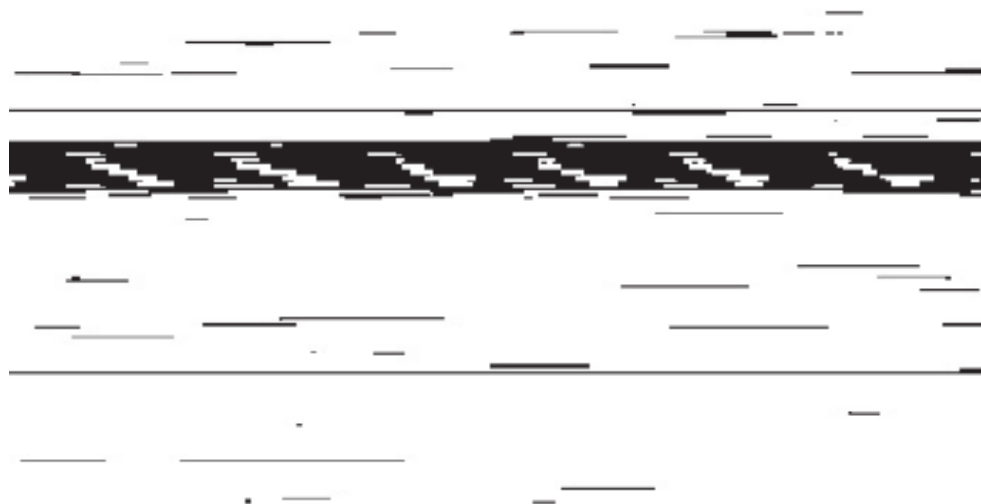


Figure 3. Feature extraction of disturbed system



Figure 4. Robot Adjusts the Controlled System

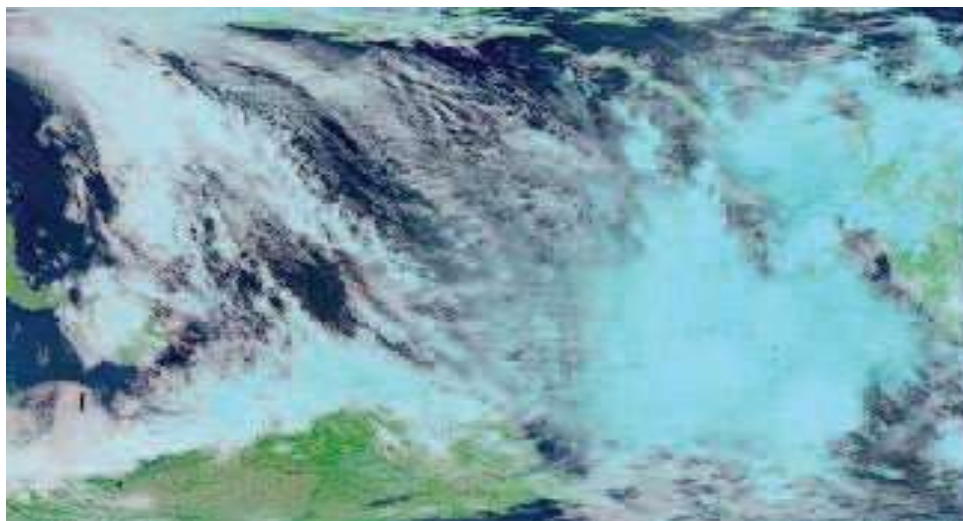


Figure 5. Controlled System Return to Normal

4. CONCLUSION

It is security that Robot monitoring system identifies just working status data of controlled system not including delicate information and separating touchy information from Internet. Just operation codes and status codes are transmitted in the general population correspondence arrange. Indeed, even it tapped, delicate Information haven't been spilled. Along these lines robot observing arrangement of sea remote detecting satellite getting station guarantees to keep programmers far from the hardware. Robot monitoring system of sea remote detecting satellite getting station utilizes innovation of the pseudo-irregular number secret key, innovation of common confirmation to anticipate cloning site, innovation of change between the picture of controlled framework and its status code, and innovation of transformation between operation codes and operation directions, its security quality is enhanced extraordinarily.

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