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# Patents filled and Published

(54) Title of the invention : ADVANCE IRRIGATION SYSTEM USING SOLENOID VALVE AND SENSORS

<p>(51) International classification</p> <p>(31) Priority Document No</p> <p>(32) Priority Date</p> <p>(33) Name of priority country</p> <p>(86) International Application No Filing Date</p> <p>(87) International Publication No</p> <p>(61) Patent of Addition to Application Number Filing Date</p> <p>(62) Divisional to Application Number Filing Date</p>	<p>:A01G0025160000, G05B0019042000, G06Q0050020000, A01G0022000000, G01N0033240000</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p>	<p>(71)Name of Applicant :</p> <p><b>1)Devidas Kundalik Mahadik</b> Address of Applicant :A/P Khambale(Bha.), Near MIDC, Tal - Khanapur, Dist - Sangli, Vita, Maharashtra Maharashtra India</p> <p><b>2)Arjun Ramchandra Nichal</b></p> <p><b>3)Abhijit Diliprao Ghorapade</b></p> <p><b>4)Ashwini Balasaheb Mohite</b></p> <p><b>5)Ganesh Raju Pawar</b></p> <p><b>6)Neha Kakasaheb Mohite</b></p> <p><b>7)Pankaj Shahaji Lengare</b></p> <p><b>8).Anuradha Manik Kambale</b></p> <p><b>9)Prashant Balkrishna Yadav</b></p> <p>(72)Name of Inventor :</p> <p><b>1)Devidas Kundalik Mahadik</b></p> <p><b>2)Arjun Ramchandra Nichal</b></p> <p><b>3)Abhijit Diliprao Ghorapade</b></p> <p><b>4)Ashwini Balasaheb Mohite</b></p> <p><b>5)Ganesh Raju Pawar</b></p> <p><b>6)Neha Kakasaheb Mohite</b></p> <p><b>7)Pankaj Shahaji Lengare</b></p> <p><b>8).Anuradha Manik Kambale</b></p> <p><b>9)Prashant Balkrishna Yadav</b></p>
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(57) Abstract :

The advanced irrigation system is an automatic irrigation system which is being widely used in the field of agriculture. Irrigation is practiced in farms where there is scarcity of water. This smart irrigation system is a farmer-friendly irrigation system, which is completely automated. This system runs without intervention of humans. The system design also has the features of which make the system wireless with the help of GSM. This project provides better services to the farmer. In this system rain sensor, temperature sensor, soil moisture sensor, humidity sensor, electrochemical sensor, voltage sensor are used for sensing rainfall, environment temperature, moisture level of soil, pH and soil nutrient level in corresponding farm. Pump is used to suck the water from well. To control the solenoid valve Arduino kit is used. As well as water sucking capacity of soil is fulfill that time sensor send signal to Arduino to turn off the valve and with the help of GSM valve operate automatically.

No. of Pages : 13 No. of Claims : 5



*Original*

(54) Title of the invention : SMART GARBAGE CLEARANCE AND MONITORING SYSTEM USING IOT

<p>(51) International classification :B09B0003000000, B65F0001000000, B65F0001140000, B09B0005000000, B30B0009300000</p> <p>(31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant :  <b>1)Devidas Kundalik Mahadik</b>  Address of Applicant :A/P Khambale(Bha.), Near MIDC, Tal -  Khanapur, Dist - Sangli, Vita, Maharashtra Maharashtra India  <b>2)Vinod Bhimrao Ingale</b>  <b>3)Sagar Rajaram Mali</b>  <b>4)Pramod Tatyasaheb Shitole</b>  <b>5)Sagar Prabhkar Mali</b>  <b>6)Dhanaji Krishna Jadhav</b>  <b>7)Sagar Shankar Lad</b>  <b>8)Amruta Dilip Patil</b>  <b>9)Prajakta pratap patil</b>  <b>10)Amisha Sunil Mali</b>  <b>11)Arjun Ramchandra Nichal</b></p> <p>(72)Name of Inventor :  <b>1)Devidas Kundalik Mahadik</b>  <b>2)Vinod Bhimrao Ingale</b>  <b>3)Sagar Rajaram Mali</b>  <b>4)Pramod Tatyasaheb Shitole</b>  <b>5)Sagar Prabhkar Mali</b>  <b>6)Dhanaji Krishna Jadhav</b>  <b>7)Sagar Shankar Lad</b>  <b>8)Amruta Dilip Patil</b>  <b>9)Prajakta pratap patil</b>  <b>10)Amisha Sunil Mali</b>  <b>11)Arjun Ramchandra Nichal</b></p>
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(57) Abstract :

One of the main concerns with our environment has been solid and dry waste management which in addition to disturbing the balance of the environment also has adverse effects on the health of the society. The detection, monitoring and management of waste is one of the main primary problems of the present era. The process of creating the items automatic is being exploited in most the most important fields of life. Solid and dry waste which is one of the sources and causes of environmental pollution and health disease has been defined under Resource Conservation and Recovery Act as any solid, semi-solid liquid or contained evaporated materials discarded from industrial, commercial, mining or agricultural operations and from community activities. The type of wastes that represent environmental pollution and that this work emphasizes on is domestic refuse consisting of degradable food wastes, leaves, dead animals and non-degradable ones like plastics, bottles, nylon, medical and hospital wastes, generated in households, hospitals, industries and business centers. In alternative words, solid wastes could also be outlined because the organic and inorganic waste materials created by varied activities of the society and that have lost their worth to the first user. To overcome this downside a replacement approach, Automatic waste management system is projected. The main objective of this is process is to separate waste at the houses in the society into dry waste and wet waste using a relay circuit driven by a comparator circuit. This waste is collected at the container. The instrumentality incorporates a measuring device accustomed sight the amount of the rubbish collected into it. When garbage reaches a specific level, a sign to the management unit is distributed victimization RF module. Also, a neighbourhood besides the wayside garbage containers is enforced .This zonal space uses the construct of load device to point if any garbage spills out the instrumentality.

No. of Pages : 9 No. of Claims : 3



*Original*

(54) Title of the invention : DEVELOPMENT OF ECO-FRIENDLY SOLID BLOCK AND BRICK DEVELOPMENT BY USING FOUNDRY SAND, SUGARCANE BAGASSE ASH AND FLYASH.

<p>(51) International classification</p> <p>(31) Priority Document No</p> <p>(32) Priority Date</p> <p>(33) Name of priority country</p> <p>(86) International Application No Filing Date</p> <p>(87) International Publication No</p> <p>(61) Patent of Addition to Application Number: Filing Date</p> <p>(62) Divisional to Application Number Filing Date</p>	<p>:C04B0028020000, C04B0028000000, C08L0097020000, C04B0033135000, C08K0011000000</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p>	<p>(71)Name of Applicant :</p> <p><b>1)Devidas Kundalik Mahadik</b> Address of Applicant :A/P Khambale(Bha.), Near MIDC, Tal - Khanapur, Dist - Sangli, Vita, Maharashtra Maharashtra India</p> <p><b>2)Pradip Shankar shinde</b></p> <p><b>3)Pramod Raghunath Thorat</b></p> <p><b>4)Chandahas Bhimrao Patil</b></p> <p><b>5)Chandani Anil Sawant</b></p> <p><b>6)Abhishek Parashram Sawant</b></p> <p><b>7)Shubham Vijay Desai</b></p> <p><b>8)Rohit Shankar Tamkhade</b></p> <p><b>9)Aradhana Ashok Mohite</b></p> <p><b>10)Arjun Ramchandra Nichal</b></p> <p>(72)Name of Inventor :</p> <p><b>1)Devidas Kundalik Mahadik</b></p> <p><b>2)Pradip Shankar shinde</b></p> <p><b>3)Pramod Raghunath Thorat</b></p> <p><b>4)Chandahas Bhimrao Patil</b></p> <p><b>5)Chandani Anil Sawant</b></p> <p><b>6)Abhishek Parashram Sawant</b></p> <p><b>7)Shubham Vijay Desai</b></p> <p><b>8)Rohit Shankar Tamkhade</b></p> <p><b>9)Aradhana Ashok Mohite</b></p> <p><b>10)Arjun Ramchandra Nichal</b></p>
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(57) Abstract :

The waste materials such as fly ash, sugarcane bagasse ash (SCBA), rice-husk ash, foundry sand and agricultural based industries are directly discharging on the land without any treatment. When they are exposed to the environment, they decompose partially or fully and thus creating environmental pollution and spreading disease to the people. These industrial waste materials can be partially utilized or recycled to make useful materials as fillers or aggregates for the replacement of cement or sand in concrete. The use of these waste materials acts not only to solve environmental and ecological problems, but also to improve the microstructure properties of concrete with minimum cost. Several types of research have been carried out to find their extensive usage in the construction field and solve the disposal problem. It is proposed to develop the blocks using conventional materials by utilizing the waste materials namely, sugarcane bagasse ash, foundry sand and fly ash, as studies have shown that all these materials have indicated their potential in gaining desired strength and durability properties as per the codal requirements; and also these materials are available at throwaway costs.

No. of Pages : 6 No. of Claims : 1





(54) Title of the invention : IOT-BASED PATIENT HEALTHCARE MONITORING SYSTEM

<p>(51) International classification :A61B0005000000, G06Q0050220000, G16H0010600000, A61B0005020500, A61B0005024000</p> <p>(31) Priority Document No :NA</p> <p>(32) Priority Date :NA</p> <p>(33) Name of priority country :NA</p> <p>(86) International Application No :NA</p> <p>Filing Date :NA</p> <p>(87) International Publication No :NA</p> <p>(61) Patent of Addition to Application Number:NA</p> <p>Filing Date :NA</p> <p>(62) Divisional to Application Number :NA</p> <p>Filing Date :NA</p>	<p>(71)Name of Applicant :</p> <p><b>1)Devidas Kundalik Mahadik</b> Address of Applicant :A/P Khambale(Bha.), Near MIDC, Tal - Khanapur, Dist - Sangli, Vita, Maharashtra Maharashtra India</p> <p><b>2)Ashish Adinath Vankudre</b></p> <p><b>3)Vicky Dnyanu Nalawade</b></p> <p><b>4)Vaishnavi Vijayrao Mane</b></p> <p><b>5)Tejaswini Anil Madane</b></p> <p><b>6)Madhuri Anil Choudhari</b></p> <p><b>7)Samina Rafik Chougule</b></p> <p><b>8)Arjun Ramchandra Nichal</b></p> <p>(72)Name of Inventor :</p> <p><b>1)Devidas Kundalik Mahadik</b></p> <p><b>2)Ashish Adinath Vankudre</b></p> <p><b>3)Vicky Dnyanu Nalawade</b></p> <p><b>4)Vaishnavi Vijayrao Mane</b></p> <p><b>5)Tejaswini Anil Madane</b></p> <p><b>6)Madhuri Anil Choudhari</b></p> <p><b>7)Samina Rafik Chougule</b></p> <p><b>8)Arjun Ramchandra Nichal</b></p>
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(57) Abstract :

IoT in healthcare is a crucial actor in offering improved medical facilities to people while also assisting doctors and hospitals. The suggested system consists of various medical equipment such as sensors and web-based or mobile-based applications that communicate via network-connected devices and aid in the monitoring and recording of patients' health data and medical information. The paper's proposed objective is to construct a system to deliver world-class medical help to patients even in the most remote locations where there are no hospitals by connecting via the internet and capturing information about their health state through the wearable devices given in the kit, which use an arduino microcontroller to monitor the patient's heart rate and blood pressure. In the event of a medical emergency, the system should notify the patient's family members and doctor of the patient's current health state and complete medical information.

No. of Pages : 12 No. of Claims : 5



*Cienal*

(54) Title of the invention : ADVANCE CAPACITOR BANK FOR AGRICULTURE AND INDUSTRIY PURPOSE FOR POWER FACTOR IMPROVEMENT AND VOLTAGE STABILIZATION

<p>(51) International classification :H02M0001420000, H02J0003180000, G05F0001700000, H02P0023260000, H02K0017300000</p> <p>(31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant :  <b>1)Devidas Kundalik Mahadik</b>  Address of Applicant :A/P Khambale(Bha.), Near MIDC, Tal -  Khanapur, Dist - Sangli, Vita, Maharashtra Maharashtra India  <b>2)Surajkumar Sadashiv Ghatage</b>  <b>3)Pranali Pralhad Nikam</b>  <b>4)Arjun sadashiv pawar</b>  <b>5)Aniket Sarjerao Jadhav</b>  <b>6)Swapnil Uttam Chavan</b>  <b>7)Ajay Rajaram Devkar.</b>  <b>8)Vaibhav Ravaso Yadhav Patil</b>  <b>9)Arjun Ramchandra Nichal</b></p> <p>(72)Name of Inventor :  <b>1)Devidas Kundalik Mahadik</b>  <b>2)Surajkumar Sadashiv Ghatage</b>  <b>3)Pranali Pralhad Nikam</b>  <b>4)Arjun sadashiv pawar</b>  <b>5)Aniket Sarjerao Jadhav</b>  <b>6)Swapnil Uttam Chavan</b>  <b>7)Ajay Rajaram Devkar.</b>  <b>8)Vaibhav Ravaso Yadhav Patil</b>  <b>9)Arjun Ramchandra Nichal</b></p>
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(57) Abstract :

A poor power factor normally leads to a less efficient electrical system, and may also be less economically efficient for system operators and end consumers. Therefore, power factor improvement plays a crucial role in the efficient system operation and electricity consumption costs reductions. The power factor improvement obtained by using capacitor banks to generate locally the reactive energy necessary for the transfer of electrical useful power, allows a better and more rational Technical-economical management of the plants. Power factor improvement is one of the techniques which help in conservation of electrical power along with a number of other benefits. A number of different techniques can be used to improve the power factor. Different techniques give good results for different types of loads, but the technique which is needed to improve power factor for the Agriculture and industrial loads explained in this project. The technique described in this project is claimed to be the most efficient for the power factor improvement capacitor banks. Several technologies of motors are available in the market, since the most affordable in terms of cost up to the most efficient or compact one. Besides that, motors have to be able to meet many specific application requirements, like speed range, installation, safety, reliability, low level of noise and vibration, long life, maintenance etc. Induction motors account for approximately 50 % of the overall electricity use in industrialized countries. In the agricultural and commercial sectors also, power consumption by ac motors is quite substantial. On an average, the energy consumed by a motor during its life cycle is 60-100 times the initial cost of the motor. This project describes by using capacitor bank for power factor improvement in an agriculture and industrial electric motor by connecting capacitor with starter.

No. of Pages : 13 No. of Claims : 5



*Original*

(54) Title of the invention : EXPERIMENTAL AND COOL PACK SOFTWARE ANALYSIS OF VAPOR COMPRESSION REFRIGERATION SYSTEM WITH SUPERHEATING BY USING R-134A REFRIGERANT

<p>(51) International classification :F25B0040000000, F25B0001100000, F25B0009000000, F25B0006040000, F25B0005020000</p> <p>(31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : <b>1)Devidas Kundalik Mahadik</b> Address of Applicant :A/P Khambale(Bha.), Near MIDC, Tal - Khanapur, Dist - Sangli, Vita, Maharashtra Maharashtra India <b>2)Amit Ramesh Katu</b> <b>3)Sourabh Shivaji Jadhav</b> <b>4)Kadam Prathamesh Babaso</b> <b>5)Kirdat Tushar Shashikant</b> <b>6)Mane Indrajeet Rajendra</b> <b>7)Aute Girish Sanjay</b> <b>8)Arjun Ramchandra Nichal</b></p> <p>(72)Name of Inventor : <b>1)Devidas Kundalik Mahadik</b> <b>2)Amit Ramesh Katu</b> <b>3)Sourabh Shivaji Jadhav</b> <b>4)Kadam Prathamesh Babaso</b> <b>5)Kirdat Tushar Shashikant</b> <b>6)Mane Indrajeet Rajendra</b> <b>7)Aute Girish Sanjay</b> <b>8)Arjun Ramchandra Nichal</b></p>
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(57) Abstract :

It is necessary to modify the simple vapour compression refrigeration cycle in order to improve the performance. The COP of system can be improved by increase the refrigeration effect or by decreasing the work required to run the compressor. The refrigeration effect can be increasing by maintaining the superheated refrigerant at exit of evaporator. On the basis Experimental analysis on vapour compression refrigeration system (VCRS) with R-134a as a refrigerant are used and their result was recorded. The effect of increasing evaporating temperature (superheating) on various performance parameter such as COP, power required to run the compressor ,volumetric efficiency , percentage increase in COP, percentage reduction in power to run compressor are find out. The main objective of this paper is evaluate the performance of VCRS cycle with the help of liquid line heat exchanger by using R-134a as a refrigerant.

No. of Pages : 11 No. of Claims : 1



*Original*

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202221017294 A

(19) INDIA

(22) Date of filing of Application :11/02/2022

(43) Publication Date : 25/08/2023

(54) Title of the invention : DESIGN AND FABRICATION OF AUTOMATIC POTATO PEELING MACHINE

(51) International classification :A23N0007020000,  
C05F0007000000,  
A47J0017020000,  
A23N0007000000,  
A47J0017180000

(31) Priority Document No :NA  
(32) Priority Date :NA  
(33) Name of priority country :NA  
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(61) Patent of Addition to Application :NA  
Number :NA  
Filing Date :NA  
(62) Divisional to Application Number :NA  
Filing Date :NA

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6)Amitkumar Bhimrao Salunkhe

7)Yogesh Dadaso Pol

8) Mhejbbeen Dadasaheb Inamdar

9) Sourabh Dilip More

10) Mhommadshehel Aslam Tamboli

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11) Shrihari Ganpati Kadam

12) Arjun Ramchandra Nichal

(57) Abstract :

Peeling of vegetables and fruits is one of the most frequent operations even at house hold purposes or at hotels. Manual peeling is peeling the vegetables with hand tool is toughest and time consuming process. Mechanization of processing operations will play a vital role in removing the negative attributes of the traditional processing techniques and promote timely large scale production with desired quality. This paper shows the chronological development of mechanical peeling and also highlights on new concept of potato peeler which would be the basic requirement for large scale potato peeling applications. The purpose of our paper is to design and fabricate the potato peeling machine. It is aimed at providing a base for the commercial production of a peeling machine, using locally available raw materials at a relatively low cost.

No. of Pages : 7 No. of Claims : 5



*Original*

(54) Title of the invention : A STUDY ON THE SUSTAINABLE FEATURES OF FLOATING BUILDING

<p>(51) International classification</p> <p>(31) Priority Document No</p> <p>(32) Priority Date</p> <p>(33) Name of priority country</p> <p>(86) International Application No</p> <p>Filing Date</p> <p>(87) International Publication No</p> <p>(61) Patent of Addition to Application Number:</p> <p>Filing Date</p> <p>(62) Divisional to Application Number</p> <p>Filing Date</p>	<p>:B63B0035440000, B63B0035000000, G06Q0050160000, E02B0003060000, G06Q0050080000</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p>	<p>(71)Name of Applicant :</p> <p><b>1)Devidas Kundalik Mahadik</b> Address of Applicant :A/P Khambale(Bha.), Near MIDC, Tal - Khanapur, Dist - Sangli, Vita, Maharashtra Maharashtra India</p> <p><b>2)Nilam Pramod Thorat</b></p> <p><b>3)Ashwini Baban Sankpal</b></p> <p><b>4)Rohan Ravi Malvankar</b></p> <p><b>5)Sanika Rajendra Repal</b></p> <p><b>6)Abhishek Laxman Ghadge</b></p> <p><b>7)Abhishek Ashok Sawant</b></p> <p><b>8)Faizan Naushad Mulla</b></p> <p><b>9)Arjun Ramchandra Nichal</b></p> <p>(72)Name of Inventor :</p> <p><b>1)Devidas Kundalik Mahadik</b></p> <p><b>2)Nilam Pramod Thorat</b></p> <p><b>3)Ashwini Baban Sankpal</b></p> <p><b>4)Rohan Ravi Malvankar</b></p> <p><b>5)Sanika Rajendra Repal</b></p> <p><b>6)Abhishek Laxman Ghadge</b></p> <p><b>7)Abhishek Ashok Sawant</b></p> <p><b>8)Faizan Naushad Mulla</b></p> <p><b>9)Arjun Ramchandra Nichal</b></p>
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(57) Abstract :

Increasing population has resulted in increased housing needs, but currently the available land for housing is decreasing. In addition, climate change has resulted in rising sea levels. Floating buildings use aquatic areas such as lakes, seas, beaches, rivers, and their parts and are not on land or land with floating type or a raft house, it can be concluded that a floating house or raft house is a residential building that is built on water by applying floating structures, materials, and shapes that correspond to the construction site. The floating house is above the water with the position of the building following the water level. It needs the principle of balance so that the building is not tilted, and needs a fastening pole so that the house does not move following the flow of water. sustainability of floating building can be interpreted as an energy and ecologically conscious approach to a building for living/working space on floatation system without navigation tool. The main infrastructures of Floating building is to maximize the use of water should be provided before establishing a new project. Material selection is another main step in the process of designing any floating building. Although, materials selected should be suitable for use with marine environment, there are different types of innovative materials which can be considered as highly appropriate for floating buildings.

No. of Pages : 17 No. of Claims : 5



*Original*



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Computer Science Engineering

Electrical Engineering

## Conference Registration Fee:

Conference Registration fee is **Rs.1700/-** Per paper. After Paper Acceptance Bank Account Information or Phone pe, Gpay Number will be Shared to Authors of All Accepted Papers.

## Important Dates

Full paper submission: 22/04/2023

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## Conference Website:

Download Paper template and Copyright form from following website

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06<sup>th</sup> May 2023 | AITRC Vita

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## Eligibility:

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## Date And Venue:

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## Important Dates

Full paper submission: 04/04/2022

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## Mode of Conference:

The Conference Paper presentation mode is Online

## Indexing

All Presented papers will be published in UGC Approved Journal.

## Link to Submit Full Paper

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## Contact Info:

**Email:** [arnichal\\_etc@aitrcvita.edu.in](mailto:arnichal_etc@aitrcvita.edu.in)

**Mobile:** 7972579506

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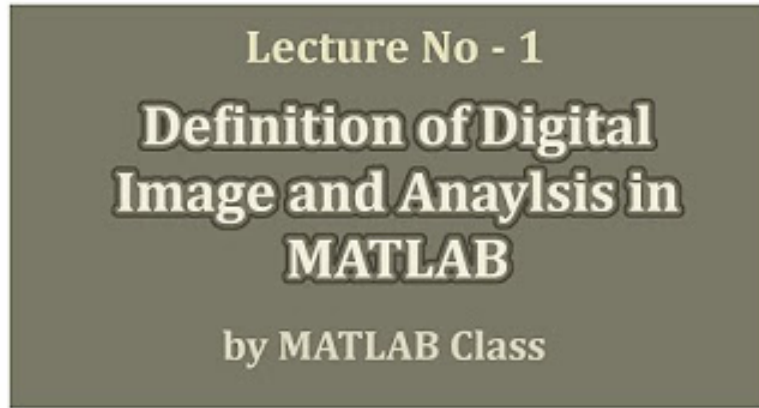
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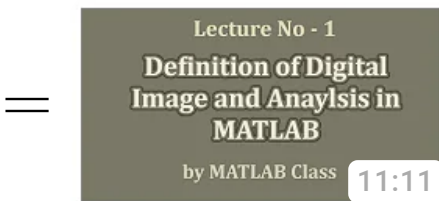


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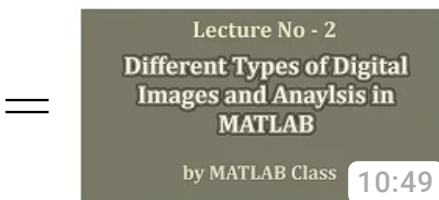
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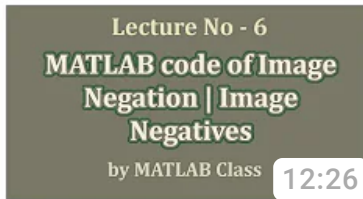


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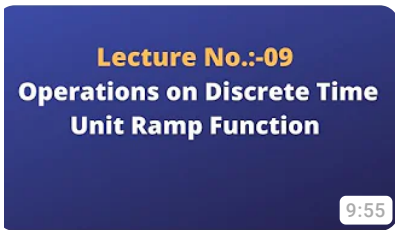
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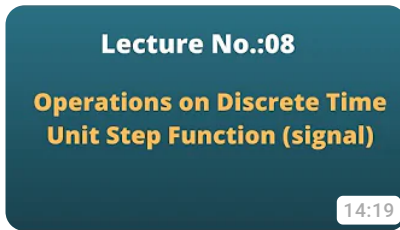


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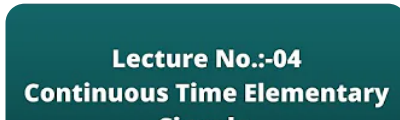


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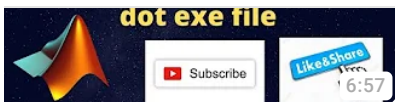
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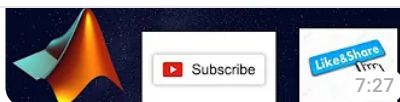
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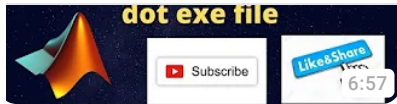
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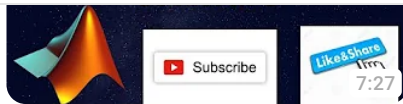
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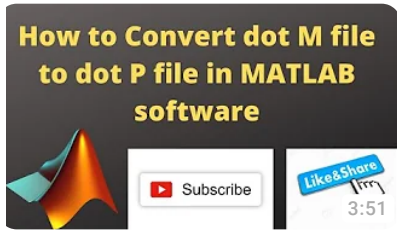
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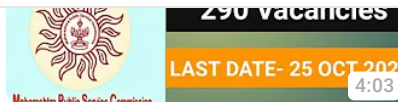
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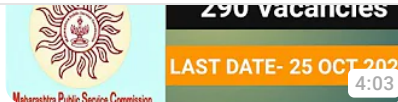


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Sunday, April 16, 2023

### Face Recognition using PCA MATLAB code

Facial recognition has become a very popular technology in recent years, and one of the most commonly used algorithms for this task is Principal Component Analysis (PCA). In this blog post, we will explore how to implement a face recognition system using PCA in MATLAB, a popular programming language for scientific computing.

Face recognition is a challenging problem that involves detecting and identifying human faces from images or videos. One approach to solving this problem is to use PCA for feature extraction. The idea behind PCA is to transform the original high-dimensional image data into a lower-dimensional space while preserving as much information as possible.

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at 9:00 AM No comments:

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Saturday, April 15, 2023

### JPEG2000 MATLAB code

JPEG2000 is an image compression standard that is widely used in various fields, such as digital photography, medical imaging, and satellite imagery. It provides higher compression ratios and better image quality than its predecessor, JPEG. In this blog post, we will discuss how to implement JPEG2000 image compression using MATLAB code.

The JPEG2000 image compression process involves four main steps: Discrete Wavelet Transform (DWT), Quantization, Entropy Coding, and Bitstream Formation. Let's discuss each step in detail and see how to implement them in MATLAB.

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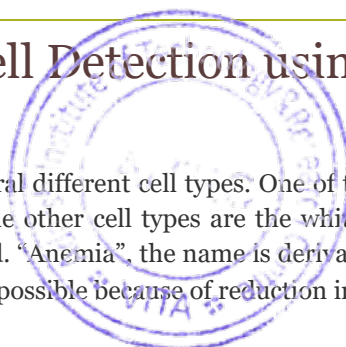
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Friday, March 24, 2023

### MATLAB Code of Sickle Cell Detection using Image Processing

The cellular part of blood molecule contains several different cell types. One of the most important and the most numerous cell types are red blood cells. The other cell types are the white blood cells and platelets. Anemia is the most common disorder of the blood. "Anemia", the name is derivative from the ancient Greek word anaimia, which means "Lack of Blood". It is possible because of reduction in Red Blood Cells (RBCs) or



resulting in lesser than normal quantity of haemoglobin in the blood. However, it can also include decreased oxygenbinding ability of each haemoglobin molecule due to deformity or lack in numerical development. Anemia is actually a sign of a disease process rather than being a disease itself. It can be either classified as acute or chronic. In chronic anemia, symptoms typically begin slowly and progress gradually; whereas in acute anemia, symptoms can be abrupt and more distressing. Among many factors, both nutritional (like vitamins and mineral deficiencies) and nonnutritional (like infection and haemoglobinopathies), that contribute to the onset of anemia; Iron Insufficiency and malaria plays a significant role. For men, anemia is typically defined as hemoglobin level of less than 13.5 g/dl and in women as hemoglobin of less than 12.0 g/dl.

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at 4:34 PM No comments:

Labels: [Biomedical](#), [Image Processing Projects](#), [Image segmentation](#), [MATLAB GUI](#), [MATLAB Projects](#)

Wednesday, September 14, 2022

## MATLAB Code of Advanced SPIHT for Image Compression.

A challenging effort that necessitates a thorough understanding of wavelet transforms, entropy coding, and bit manipulation is the implementation of the SPIHT (Set Partitioning In Hierarchical Trees) image compression technique from scratch. Listed below is a high-level breakdown of the procedures needed to implement SPIHT image compression:

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Tuesday, July 20, 2021

## Image Denoising using curvelet Transform MATLAB code | MATLAB Project

Hello friends, Today posting project in the field of image denoising. A picture is often distorted by noise in it acquisition and transfer. Therefore, noise reduction is A necessary step for any complex image processing algorithm. Debt reduction or noise reduction has been the subject of a permanent study for engineers and scientists and one reason for this is the lack of a single process, capable of performing a wide range of denoising photographic category. Or, traditional noise removal techniques such as Wiener filters have been around for a long time time for their simplicity and ability to achieve significant noise removal when the noise variation is low, causes blurring and smoothing out the sharp edges of the image. This post including dual use of curvelet transform, curvelet convert curve and curvelet transform with USFFT using two sorting methods such as hard and half threshold reconstruction.

[Read more »](#)

at 9:30 AM No comments:

Labels: [Image denoising](#), [Image Processing Fundamentals](#), [Image Processing Project](#), [Image Processing Projects](#), [Image restoration](#), [MATLAB Projects](#)

Monday, July 19, 2021



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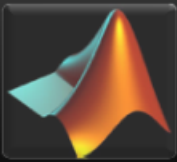
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## Face Recognition

### using PCA MATLAB code

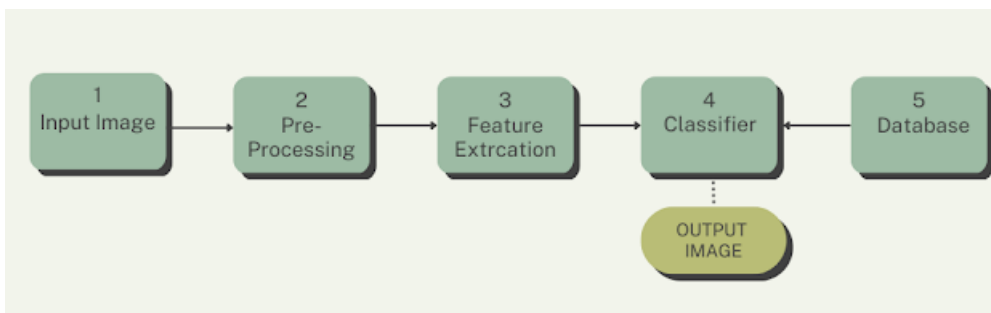
<https://paidproj.blogspot.com/2023/04/face-recognition-using-pca-matlab-code.html>

20:30

Facial recognition has become a very popular technology in recent years, and one of the most commonly used algorithms for this task is Principal Component Analysis (PCA). In this blog post, we will explore how to implement a face recognition system using PCA in MATLAB, a popular programming language for scientific computing.

Face recognition is a challenging problem that involves detecting and identifying human faces from images or videos. One approach to solving this problem is to use PCA for feature extraction. The idea behind PCA is to transform the original high-dimensional image data into a lower-dimensional space while preserving as much information as possible.

#### Block Diagram:



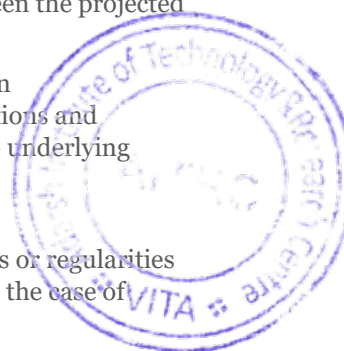
[https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEhWqUStQhIKdelvZWj2U4kd3PKcglGQ95m1nNDPSaLVjOviLIq0aKZBsBvm\\_IPSpjgvFKRX3JssSycc8pL8aH078OuTUwXGsVTAzqxVafh0HkholwMpw7Eaf8aQdcog\\_wfhktj1jwWP5D0mK9ML\\_EGETuk-SPRETajJ0EbpWj1EwkA1jba\\_5nnDI1DwpA/s980/2.png](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEhWqUStQhIKdelvZWj2U4kd3PKcglGQ95m1nNDPSaLVjOviLIq0aKZBsBvm_IPSpjgvFKRX3JssSycc8pL8aH078OuTUwXGsVTAzqxVafh0HkholwMpw7Eaf8aQdcog_wfhktj1jwWP5D0mK9ML_EGETuk-SPRETajJ0EbpWj1EwkA1jba_5nnDI1DwpA/s980/2.png)

In MATLAB, we can use the Image Processing Toolbox to load, preprocess, and manipulate the facial images. After preprocessing, we apply PCA to the images to extract the most relevant features. This is done by computing the covariance matrix of the images and then finding its eigenvectors and eigenvalues.

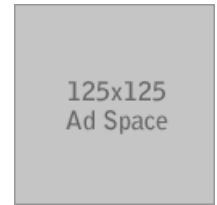
The eigenvectors are known as eigenfaces and are a set of characteristic patterns that represent the most important features of the faces. We can use these eigenfaces to project new images onto the eigenspace and perform classification by comparing the distances between the projected images and the training set of known faces.

One of the main advantages of using PCA for face recognition is that it is relatively insensitive to changes in lighting conditions and facial expressions. This is because the eigenfaces capture the underlying structure of the faces, rather than the specific details.

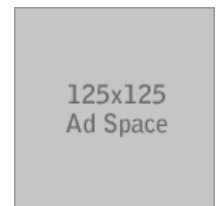
Another important concept in face recognition is pattern recognition. Pattern recognition involves identifying patterns or regularities in data, which can be used for classification or prediction. In the case of



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face recognition, we use pattern recognition to identify the unique features of each individual's face.

In summary, face recognition using PCA is a powerful technique that can be implemented in MATLAB. By extracting eigenfaces and using pattern recognition techniques, we can create a reliable and accurate system for identifying individuals from images. This technology has a wide range of applications, from security and surveillance to marketing and entertainment. As computer vision and machine learning continue to evolve, we can expect even more advanced and sophisticated face recognition systems to emerge.

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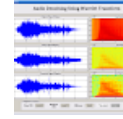
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Prof. Anupam Basu  
NPTEL Coordinator  
IIT Kharagpur

Total number of candidates certified in this course: **1031**

(12 week course)  
Jul-Oct 2018

Prof. Adrijit Goswami  
Dean  
Continuing Education, IIT Kharagpur



Indian Institute of Technology Kharagpur



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**Prof. Devendra Jalihal**  
Chairperson,  
Centre for Outreach and Digital Education, IITM

**Jan-Apr 2023**  
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*Andrew Thangaraj*

**Prof. Andrew Thangaraj**  
NPTEL, Coordinator  
IIT Madras



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for successfully completing the course

## Concrete Technology

with a consolidated score of **49** %

Online Assignments	16.88/25	Proctored Exam	31.91/75
--------------------	----------	----------------	----------

Total number of candidates certified in this course: **561**

*Devendra Jalihal*

**Prof. Devendra Jalihal**

Chairperson,  
Centre for Outreach and Digital Education, IITM

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**(12 week course)**

*Prof. Andrew Thangaraj*

**Prof. Andrew Thangaraj**

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Total number of candidates certified in this course: **719**

**Prof. Sanjeev Manhas**  
Coordinator, Continuing Education Centre  
IIT Roorkee

Jan-Feb 2023

(4 week course)

**Prof. Priti Maheshwari**  
NPTEL Coordinator  
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