



**RAMAIAH**  
College of Arts, Science  
& Commerce

ಎಮ್ ಎಸ್ ರಾಮಯ್ಯ ಕಲಾ, ವಿಜ್ಞಾನ ಮತ್ತು ವಾಣಿಜ್ಯ ಕಾಲೇಜು  
**M S Ramaiah College of Arts, Science and Commerce**  
Re-accredited 'A' by NAAC, Permanently Affiliated to Bengaluru City University,  
Approved by Government of Karnataka, Approved by AICTE, New Delhi,  
Recognized by UGC under 2f & 12B of UGC act 1956

Ref: MSRCASC/CSc/20-21/004

Date: 10/6/2021

## CIRCULAR

### Department of Computer Science

The department is conducting a National Level Virtual Workshop on “**Applications of Neural Networks in Image Processing and Visualization**” for all the students of BCA, BSc EMCs and other students on 14<sup>th</sup> June 2021. Registration is free and e-certificates will be provided for the participants.

Resource Person: Dr. Jayshree V  
Rtd HOD Electrical & Professor Electronics(PG)  
Textile and Engineering Institute  
Ichalakaranji, Maharastra  
Time: 11am onwards

*Lal*  
10/6/21  
HOD

Head Of The Department Of Computer Science,  
M. S. Ramaiah College Of  
Arts Science And Commerce  
MSRIT Post, Bangalore - 560 054

*Heela*  
Principal

Principal,  
M.S. Ramaiah College of Arts, Science & Commerce,  
MSRIT Post, MSR Nagar  
Bangalore - 560 054

M S Ramaiah Nagar  
MSRIT Post  
Bangalore 560 054

T +91 80 2360 0966/8597  
+91 80 2360 6905  
F +91 80 2360 6213

E principal@msrcasc.edu.in  
W www.msrcasc.edu.in

## National Level

# VIRTUAL WORKSHOP ON APPLICATION OF NEURAL NETWORKS IN IMAGE PROCESSING AND VISUALIZATION

## ABOUT THE COLLEGE

Ramaiah College of Arts, Science and Commerce was established in 1994 by our founder Late Dr M S Ramaiah offering both under graduate and post graduate degrees offered by Bengaluru city University in Arts, Science and Commerce and Management streams. The college is approved by AICTE, New Delhi, recognized by the Government of Karnataka. The college is re-accredited "A" grade by NAAC

## ABOUT THE WORKSHOP

### SCHEDULE

**DATE:** 14TH JUNE 2021

**TIME:** 11:00AM - 12:00PM

**TOPIC:** Concepts of Computer Vision

**TIME:** 12:00PM - 1:00PM

**TOPIC:** Artificial Neural Networks in Image Recognition

### OBJECTIVE

To introduce the concepts of image processing and basic analytical methods to be used in image processing

### OUTCOMES

Understand the need for image transforms and to develop any image processing application

## PATRONS

Dr. MR Jayaram Chairman GEF

Sri. M R Janakiram Director GEF

Sri.M R Kodandaram Director GEF

Sri. B S Ramaprasad Chief Executive GEF (E & GS)

Sri. G Ramachandra Chief of Finance GEF (E & GS)

Dr. A.Nagarathna , Principal RCASC

## ORGANISING COMMITTEE

Dr. Prathiba V Kalburgi, HOD

Dr. A Malathi Palani, Assistant Professor

Mrs. Haripriya G S, Assistant Professor

Mr.LakshmiPathi V, Assistant Professor

Mrs. Srividya R, Assistant Professor

## PROGRAM CO-ORDINATORS

Mrs.Suma C, Assistant Professor

Mrs. Dhanashri Vaishali, Assistant Professor

## REGISTRATION DETAILS

### Free Registration

Click on the Link below

<https://forms.gle/vVay3gjSL19reEDV7>

## RESOURCE PERSON

### Dr. V. Jayashree

Rtd. HOD Electrical & Professor  
Electronics (PG)

Textile and Engineering Institute



14TH JUNE 2021



11:00AM-1:00PM

## LIVE ON GOOLE MEET

<https://meet.google.com/zbg-phgn>

**ORGANISED BY**  
**DEPARTMENT OF COMPUTER SCIENCE**

Ramaiah College of Arts, Science and Commerce  
Bengaluru - 560054



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## Department of Computer Science

### Report

#### Workshop on Applications of Neural Networks in Image Processing and Visualization

**Date: 14/07/2021**

**Event Coordinator: Suma C, Dhanashri Vaishali**

**No of Students participated: 83**

**Objective: To introduce the concept of image processing and basic analytical methods to be used in image processing**

A national level virtual workshop on 14<sup>th</sup> July 2020 was organized by the Department of Computer Science. The Resource person was Dr V Jayashree, Rtd, HOD Electrical and Professor Electronics (PG) Textile and Engineering Institute

The workshop was on "Applications of Neural Networks in image Processing and Visualization".

Resource person gave introduction to image processing in the beginning of the workshop she defined Image processing is a way to convert an image to a digital aspect and perform certain functions on it, in order to get an enhanced image or extract other useful information from it. It is a type of signal time when the input is an image, such as a video frame or image and output can be an image or features associated with that image. the Image Processing system includes treating images as two equal symbols while using the set methods used.

It is one of the fastest growing technologies today, with its use in various business sectors.

Image processing basically involves the following three steps.

Importing an image with an optical scanner or digital photography.

Analysis and image management including data compression and image enhancement and visual detection patterns such as satellite imagery.

M S Ramaiah Nagar  
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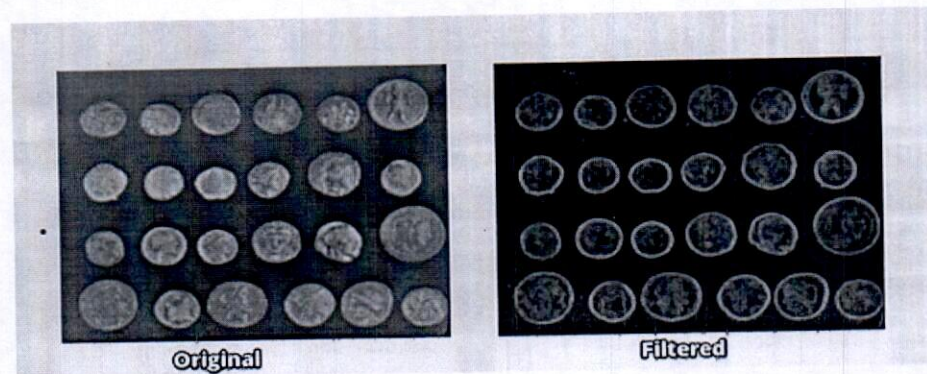
T +91 80 2360 0966/8597  
+91 80 2360 6905  
F +91 80 2360 6213

E principal@msrcasc.edu.in  
W www.msrcasc.edu.in

  
Principal,  
M.S. Ramaiah College of Arts, Science & Commerce  
MSRIT Post, MSR Nagar  
Bangalore 560 054

It produces the final stage where the result can be changed to an image or report based on image analysis.

Image processing is a way by which an individual can enhance the quality of an image or gather alerting insights from an image and feed it to an algorithm to predict the later things




The resource person told about the types of neural networks

- Artificial Neural Networks (ANN)
- Convolution Neural Networks (CNN)
- Recurrent Neural Networks (RNN)

She also gave an insight on neural networks where it is based on models of the human brain and are composed of a large number of simple processing elements that operate in parallel. In the human brain, more than a billion elements or cells, called neurons, are individually connected to tens of thousands of other neurons. Although each cell operates like a simple processor, the massive interaction among them makes vision, memory, and thought processes possible.

To obtain a background marker, the binary image from the threshold operation was inverted, and the distance from every pixel in the background to the nearest pixel inside a seed was computed. These maximum distances form a meshwork of ridges between the seeds that define a region of influence for each seed. By isolating this meshwork using an auxiliary watershed operation followed by a threshold, a binary image of the background marker was computed. The seed marker and the background marker binary images were then added together and a frame was added around the image

**Outcome:** Understand the need for image transform and to develop any image processing applications

  
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M.S. Ramaiah College of Arts, Science & Comm.  
MSRIT Post, MSR Nagar  
Bangalore - 560 054

# Workshop on Applications of Neural Networks in Image Processing and Visualization

Date: 14/07/2021

The screenshot shows a video player displaying a neural network visualization. The top part of the video shows a handwritten digit '9' on the left, followed by a series of vertical bars representing feature maps or filters. The bottom part of the video shows the same digit '9' with a question mark overlaid on it, and a text box below that reads: "The brightest neurons of that output layer is the network's choice as to what digit this image represents?". The video player interface includes a progress bar at 0:00 / 44:35 and a Windows taskbar at the bottom.

The screenshot shows a video player displaying a diagram titled "Neuron model". The diagram illustrates the biological structure of a neuron (dendrites, nucleus, cell body, axon, axon terminals) and its mathematical representation. The mathematical model shows an input  $x_0$  from a neuron, a synapse with weight  $w_0$ , and a bias  $b$ . The weighted input is  $w_0 x_0$ . Other inputs are  $w_1 x_1$  and  $w_2 x_2$ . The sum of these inputs is  $\sum w_i x_i + b$ , which is passed through an activation function  $f$  to produce the output on the output axon. The diagram is dated 6/14/2021 and has a page number 48.

*Aneela*  
Principal,  
M.S. Ramaiah College of Arts, Science & Commerce  
MSRIT Post, MSR Nagar  
Bangalore - 560 075

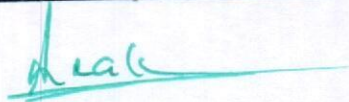
**Department of Computer Science**  
**Workshop on Application of Neural Networks in Image Processing and Visualization- 14-6-2021**

| Sl.No | Timestamp          | Name              | Register no | Semes<br>ter | College Name  | State          |
|-------|--------------------|-------------------|-------------|--------------|---|----------------|
| 1     | 6-13-2021 20:12:50 | Manjunath A Gaded | R1917637    | 4            | Ms Ramaiah College of arts science, and commerce    | Karnataka      |
| 2     | 6-13-2021 20:14:28 | Riya Sinha        | R1917661    | 4            | MS Ramaiah college of arts science and commerce     | KARNATAKA      |
| 3     | 6-13-2021 20:15:05 | Aneesh MR         | R1817609    | 6            | Ms Ramaiah  | Karnataka      |
| 4     | 6-13-2021 20:16:59 | Sadiyah Azra      | R1917664    | 4            | Ms ramaiah of arts science and Commerce             | Karnataka      |
| 5     | 6-13-2021 20:18:09 | Rajshri           | R1917659    | 4            | MS RAMAIAH COLLEGE OF ARTS SCIENCE AND COMMERCE     | Karnataka      |
| 6     | 6-13-2021 20:18:37 | Gowri.S           | R1917618    | 4            | Ramaiah college of arts science and commerce        | Karnataka      |
| 7     | 6-13-2021 20:19:46 | SURYA SD          | R1817672    | 6            | Ms ramaiah college of arts and science and commerce | Karnataka      |
| 8     | 6-13-2021 20:23:07 | Manisha Kumari    | R1917636    | 4            | M.s. Ramaiah college of art science and commerce    | Bihar          |
| 9     | 6-13-2021 20:28:43 | Likitha           | R1917631    | 4            | MS ramaiah  | Karnataka      |
| 10    | 6-13-2021 20:31:54 | G.MohanVamsi      | 1           | 4            | Sri Gnanambica degree college                       | Andhra Pradesh |
| 11    | 6-13-2021 20:41:12 | Nayana B K        | R1817648    | 6            | M.S.Ramaiah College of Arts Science and Commerce    | Karnataka      |
| 12    | 6-13-2021 20:41:12 | Priyadarshini S   | S1814635    | 6            | Ramaiah college of arts science and commerce        | Karnataka      |
| 13    | 6-13-2021 20:41:26 | VYSHNAV MV        | R1917679    | 4            | Ramaiah college of Art, science and commerce        | Karnataka      |
| 14    | 6-13-2021 20:42:28 | Anis Das          | R1917606    | 4            | Ramaiah collage of arts science and commerce        | Karnataka      |
| 15    | 6-13-2021 20:43:26 | Menaka.bm         | S1814631    | 6            | MS RAMAIAH COLLEGE OF ARTS SCIENCE AND COMMERCE     | Karnataka      |
| 16    | 6-13-2021 20:53:53 | Shiva sahani      | R1817666    | 6            | Ramaiah college of arts, science and commerce       | Karnataka      |
| 17    | 6-13-2021 20:54:34 | Swathi.o          | R1917672    | 4            | Ramaiah college of arts science and commerce        | Karnataka      |
| 18    | 6-13-2021 20:55:04 | Chandan N         | S1814623    | 6            | Ms ramaiah ckg if arts sciens and commerce          | Karnataka      |
| 19    | 6-13-2021 21:02:20 | Akshitha R        | R1917605    | 4            | MSRCASC   | Karnataka      |
| 20    | 6-13-2021 21:04:55 | Uma               | R1917675    | 4            | Ramaiah College of Arts Science and Commerce        | Kerala         |
| 21    | 6-13-2021 21:29:19 | Supriya Goswami   | R1917670    | 4            | MSRCASC   | Karnataka      |
| 22    | 6-13-2021 21:40:58 | S keerthika       | S1814646    | 6            | M s ramaiah college of arts science and commerce    | Andhrapradesh  |
| 23    | 6-13-2021 22:03:05 | Tejashree P       | R1817674    | 6            | MS Ramaiah College Of Arts Science And Commerce     | Karnataka      |


*Ancele*

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|    |                    |                       |            |   |   |           |
|----|--------------------|-----------------------|------------|---|---|-----------|
| 24 | 6-13-2021 22:29:22 | Sachin kumar          | R1917663   | 4 | MS Ramaiah College of Arts Science and Commerce     | Bihar     |
| 25 | 6-13-2021 23:10:50 | Priyanka m            | 09         | 4 | Ms Ramaiah  | Karnataka |
| 26 | 6-13-2021 23:52:57 | Rajshekar             | R1816738   | 6 | Ramaiah institute of business studies               | Karnataka |
| 27 | 6-13-2021 23:54:15 | Prajwal G             | R1817654   | 6 | Ramaiah college of arts science and commerce        | Karnataka |
| 28 | 6-14-2021 5:52:50  | SPANDANA.N.C          | R1917669   | 4 | MS Ramaiah College Of Arts Science And Commerce     | Karnataka |
| 29 | 6-14-2021 8:07:35  | YETURU KHADER NIKESH  | S1814656   | 6 | MSRCASC   | Karnataka |
| 30 | 6-14-2021 8:15:13  | Surya Prakash         | S1814648   | 6 | Ms Ramaiah college of arts science and commerce     | KARNATAKA |
| 31 | 6-14-2021 8:15:23  | Pranshu Anand         | R1917654   | 4 | Ramaiah college of arts science and commerce        | Karnataka |
| 32 | 6-14-2021 8:28:24  | Nishanth N            | R1917645   | 4 | MS Ramaiah  | Karnataka |
| 33 | 6-14-2021 8:34:41  | Nithesh A Kumar       | R1917646   | 4 | Ramaiah college of arts science and commerce        | Karnataka |
| 34 | 6-14-2021 8:35:57  | Nithesh A Kumar       | R1917646   | 4 | MS Ramaiah college of arts science and commerce     | Karnataka |
| 35 | 6-14-2021 8:45:41  | Upasana H N           | 1BY19EE052 | 6 | BMS Institute of Technology                         | Karnataka |
| 36 | 6-14-2021 8:47:11  | Navanigha K K         | R1917642   | 4 | MS Ramaiah college of arts, science and commerce    | Karnataka |
| 37 | 6-14-2021 9:09:42  | Nerosha SK            | R1917643   | 4 | M. S. Ramaiah college of arts, science and commerce | Karnataka |
| 38 | 6-14-2021 9:24:17  | Gunavardhini.L        | R1917620   | 4 | Ms ramaiah  | Karnataka |
| 39 | 6-14-2021 9:25:18  | Gunavardhini.L        | R1917620   | 4 | Ms ramaiah arts and science                         | Karnataka |
| 40 | 6-14-2021 9:32:37  | Ashwitha Adiga K      | S1814621   | 6 | MS Ramaiah college of arts, science and commerce    | Karnataka |
| 41 | 6-14-2021 9:33:50  | Vani R Shetty         | S1814652   | 6 | M S Ramaiah college of arts science and commerce    | Karnataka |
| 42 | 6-14-2021 9:41:10  | R. Thanushree         | R1917655   | 4 | Ms . Ramaiah college of arts science and commerce   | Karnataka |
| 43 | 6-14-2021 9:44:43  | Shahzad Bin Shahjahan | R1917666   | 4 | MS Ramaiah College of Arts, Science and Commerce    | Karnataka |
| 44 | 6-14-2021 10:20:57 | Pooja.B.H             | R1817653   | 6 | M.S.Ramaiah College Of Arts, Science and Commerce   | Karnataka |
| 45 | 6-14-2021 10:22:05 | Madhurashree N        | R1817640   | 6 | Ramaiah college of arts, science and commerce       | Karnataka |
| 46 | 6-14-2021 10:27:12 | Priyanka A            | S1814636   | 6 | M S Ramaiah College of Arts, Science and Commerce   | Karnataka |

  
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**MSRIT Post, MSR Nagar**  
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|----|--------------------|-----------------------|------------|---|---|----------------|
| 47 | 6-14-2021 10:27:26 | Bhavana R             | S1814622   | 6 | MS RAMAIAH COLLEGE OF ARTS SCIENCE AND COMMERCE       | Karnataka      |
| 48 | 6-14-2021 10:28:28 | Govinda T             | S1814626   | 6 | M S Ramaiah college of Arts, science and Commerce     | Karnataka      |
| 49 | 6-14-2021 10:34:33 | Rohith M              | R1822317   | 6 | M S Ramaiah College Of Arts, Science & Commerce       | Karnataka      |
| 50 | 6-14-2021 10:34:57 | Pushpanjali H R       | R1812450   | 6 | M S Ramaiah college of Arts science and commerce      | Karnataka      |
| 51 | 6-14-2021 10:35:16 | Keshav Verma          | R1817634   | 6 | RAMAIAH COLLEGE OF ARTS, SCIENCE & COMMERCE           | karnataka      |
| 52 | 6-14-2021 10:36:51 | P VINOD KUMAR         | R1817652   | 6 | MS Ramaiah College of Arts Science and Commerce       | KARNATAKA      |
| 53 | 6-14-2021 10:45:41 | Kaviya                | S1814628   | 6 | MS Ramaiah of arts science and commerce               | Karnataka      |
| 54 | 6-14-2021 10:52:22 | Govardhan.D.Nath.     | R1917617   | 4 | MSRCASC   | Karnataka      |
| 55 | 6-14-2021 10:52:44 | P Sirekha             | R1917647   | 4 | MSRCASC   | Karnataka      |
| 56 | 6-14-2021 10:52:49 | Sindhu                | R1917668   | 4 | Ramaiah college of arts, science and commerce         | Karantaka      |
| 57 | 6-14-2021 10:53:09 | Kishan Kumar Upadhyay | R1917630   | 4 | MSRCASC   | Kanataka       |
| 58 | 6-14-2021 10:53:09 | Yogini Arora          | R1917680   | 4 | Ms Ramaiah college of arts science and commerce       | Karnataka      |
| 59 | 6-14-2021 10:53:27 | Manisha Kumari        | R1917636   | 4 | M.s. Ramaiah college of art , science and commerce    | Bihar          |
| 60 | 6-14-2021 10:53:38 | Deekshitha            | R1917610   | 4 | Ms Ramaiah collage of arts science and commerce       | Karanataka     |
| 61 | 6-14-2021 10:54:41 | Saima Farha Khan      | R1817661   | 6 | MSRCASC   | Karnataka      |
| 62 | 6-14-2021 10:57:21 | Sunkara Reddy Deepika | 17W51A0469 | 8 | Sir Vishveshwaraiah Institute Of Science & Technology | Andhra Pradesh |
| 63 | 6-14-2021 10:57:29 | Pranav Pandey         | R1917653   | 4 | MSRCASC   | Karnataka      |
| 64 | 6-14-2021 10:58:36 | Sanjay VS             | R1818063   | 7 | Vivekananda Institute of Management                   | Karnataka      |
| 65 | 6-14-2021 11:00:28 | Prem sawant           | R1817656   | 6 | M S Ramaiah college of arts science and commerce      | Karnataka      |
| 66 | 6-14-2021 11:00:38 | Vivek Kumar           | R1917678   | 4 | M.S. Ramaiah College of Arts, Science and Commerce    | Bengaluru      |
| 67 | 6-14-2021 11:01:23 | Vivek Kumar           | R1917678   | 4 | M.S.Ramaiah College of Arts, Science and Commerce     | Karnataka      |
| 68 | 6-14-2021 11:01:55 | Thejas BS             | R1817676   | 6 | Ramaiah college of Arts, Science and Commerce         | Karnataka      |
| 69 | 6-14-2021 11:02:10 | Vivek Kumar           | R1917678   | 4 | M.S.Ramaiah College of Arts, Science and Commerce     | Karnataka      |
| 70 | 6-14-2021 11:08:31 | HARSHA R              | R1917623   | 4 | MSRCASC   | Karnataka      |

  
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|----|--------------------|-------------------|------------|---|---|-----------|
| 71 | 6-14-2021 11:15:38 | Vivek Iyer        | S1914630   | 4 | Ramaiah College of Arts Science and Commerce    | Karnataka |
| 72 | 6-14-2021 11:16:22 | NIKHILESH B       | S1914639   | 4 | MS RAMAIAH COLLEGE OF ARTS SCIENCE AND COMMERCE | karnataka |
| 73 | 6-14-2021 11:16:59 | Revathi. V        | S1914643   | 4 | Ramaiah college of arts science and commerce    | Karnataka |
| 74 | 6-14-2021 11:18:48 | Dhananjaya M      | S1914625   | 4 | Ramaiah college of arts science and commerce    | Karnataka |
| 75 | 6-14-2021 11:18:49 | Abhishek G S      | S1914615   | 4 | Ms Ramaiah college of arts science and commerce | Karnataka |
| 76 | 6-14-2021 11:19:32 | Neha Kumari       | S1914638   | 4 | Ramaiah college of arts science and commerce    | Karnataka |
| 77 | 6-14-2021 11:19:33 | Shivaki Gowda kn  | S1914647   | 4 | MSRCASC   | Karnataka |
| 78 | 6-14-2021 11:28:18 | Shradha S Vadhone | S1914648   | 4 | MS Ramaiah College of Arts Science and Commerce | Karnataka |
| 79 | 6-14-2021 11:57:38 | Vinitha Handa     | S1914650   | 4 | MS ramaiah college of arts,science and commerce | Karnataka |
| 80 | 6-14-2021 14:38:16 | Upasana H N       | 1BY19EE052 | 3 | BMS Institute of Technology                     | Karnataka |
| 81 | 6-14-2021 18:11:21 | Rohith M          | R1822317   | 6 | M S Ramaiah College Of Arts,Science & Commerce  | Karnataka |
| 82 | 6-15-2021 1:05:39  | Upasana H N       | 1BY19EE052 | 3 | BMS Institute of Technology                     | Karnataka |
| 83 | 6-20-2021 16:27:14 | Aneesh MR         | R1817609   | 6 | MSRCASC   | Karnataka |

*Sheela*

*Principal,  
M.S. Ramaiah College of Arts, Science & Commerce  
MSRIT Post, MSR Nagar  
Bangalore - 560029*