



Webinar on

Video Processing

Date: 13th August 2020

Resource Person:

Dr. Jharna Majumdar

SCIENTIST-G, Head, Aerial Image Exploitation Division, Aeronautical Development Establishment (ADE),

DRDO (Retd.), Min. of Defence, Govt. of India

Co-ordinator:

Dr. Sujata Chakravarty

Department of Computer Science and Engineering

No. of Participants: 158

CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, PKD

Dr. Jharna Majumdar is currently the Dean R & D, Prof. Dept of M Tech Comp Sc & Engg. and Head of two Research Centre of NMIT, Centre for Robotics Research and Centre for Space research at the Nitte Meenakshi Institute of Technology, Bangalore, India.

About the Session:

This session gives the varied defence applications on video processing. This session discusses machine learning, types of machine learning, uses of machine learning etc. It also provides the details of video processing used in varied defence applications such as video geo registration, extraction of intelligence from flight missions, etc. by using neural network, deep neural network and convolutional neural network.

Objectives:

- To understand the image processing
- To gain the knowledge of machine learning and its uses
- To extract the basic knowledge of video processing
- To learn the uses of video processing in defence

Outcome:

It could be utilized for tracking the objects from the different videos. To detect the rotated objects from the video by using recent methods.

Photographs of the event:

13th August 2020

Basics of ML, Video processing and applications of defence

Machine Learning - Concept


Learning Phase

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graph LR; I[Input Image] --> P[Pre Processing]; P --> FE[Feature Extraction]; FE --> DN[Data Normalization]; DN --> DR[Dimensionality Reduction]; DR --> C[Clustering using Data Mining Techniques]; C --> IDB[Intelligent Data Base];
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Identification Phase

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graph LR; QI[Query Image] --> QP[Pre Processing]; QP --> QFE[Feature Extraction]; QFE --> QFN[Features Normalization]; QFN --> QDR[Dimensionality Reduction]; QDR --> IC[Identify the Cluster Classification]; IC --> MQI[Matched Query Image];
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Identification of Diseased Leaves



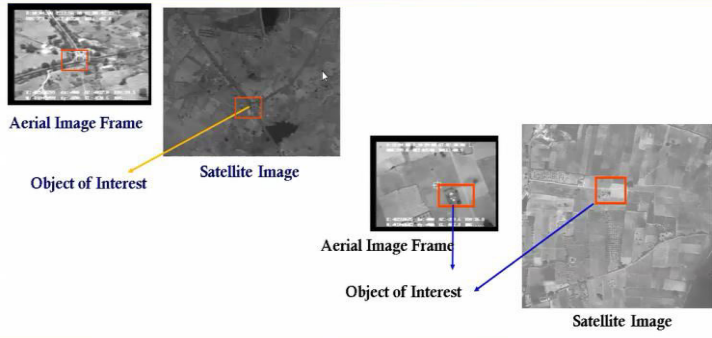
22

Video Geo Registration for Missile Targeting

1. Using Mathematical Model of Transformation, Registration, Matching
2. Proposed to do using Machine Learning, Deep Neural Network, Convolutional Neural Network

23

Video Geo Registration



Aerial Image Frame

Object of Interest

Satellite Image

Aerial Image Frame

Object of Interest

Satellite Image

Figure 1: Basics of ML, video processing and applications of defence



Figure 2: Brochure of the webinar on “ Video Processing”

PARTICIPANT LIST

1	Dr. Tumanath Samantara	Associate Professor
2	Dr. Swarnalata Jena	Associate Professor
3	Dr. Ajit Kumar Pradhan	Associate Professor
4	Dr. Biswanandan Dash	Associate Professor
5	Saubhagyalaxmi Singh	Asst. Professor
6	Sasi Bhusan Padhi	Asst. Professor
7	Subhashree Hota	Asst. Professor
8	Uma Sankara Sahu	Asst. Professor
9	Sarat Kumar Jena	Asst. Professor
10	Saban Kumar Maharana	Asst. Professor
11	Gyana Ranjan Panigrahi	Asst. Professor
12	Dr. Gayatri Acharya	Asst. Professor
13	Dr. V. Parvati Sai Arun	Asst. Professor

14	Dr. Gagan Kumar Panigrahi	Asst. Professor
15	Dr. Bibhudutta Mishra	Asst. Professor
16	Tanuja Biswal	Professor
17	Narayan Chandra Biswal	Professor
18	Aruna Kumar Swain	Professor
19	Maheswara Behera	Professor
20	Dr. Mohammed Siddique	Associate Professor
21	Dr. Goutam Kumar Mahato	Associate Professor
22	Dr. Prafulla Kumar Panda	Assistant Professor
23	Dr. Rajib Kumar Majhi	Assistant Professor
24	Mr. Vishal Kumar Singh	Assistant Professor
25	Dr. P. Srinivasa Rao	Professor
26	Mr. Mir Sadat Ali	Associate Professor
27	Dr. Vijay. Muditana	Associate Professor
28	Dr. N. B. Karthik Babu	Assistant Professor
29	Dr. Nagesh Kolagani	Professor
30	Ms. A. Abhilasha	Assistant Professor
31	Mr. Debendra Maharana	Assistant Professor
32	Mr. Md. Sameen Chishti	Assistant Professor
33	Mr. Abinash Panda	Assistant Professor
34	Mr. Sambeet Patro	Assistant Professor
35	Prof.(Dr) M. Devender Reddy	Professor cum Dean Acad
36	Dr. Sagar Maitra	Professor
37	Prof.(Dr) Gouranga Ch. Mishra	Professor
38	Dr. Tanmoy Shankar	Associate Professor
39	Dr. Subhashisa Praharaj	Assistant Professor
40	Ms. Jnana Bharati Palai	Assistant Professor
41	Ms. Deepthi Chandaka	Assistant Professor
42	Mr. Santosh Kumar Lenka	Assistant Professor
43	Ms. Pilli Manasa	Asst. Professor
44	Dr. Pushpalatha G.	Professor
45	Dr. Koustava Kumar Panda	Associate Professor
46	Ms. Preetha Bhadra	Assistant Professor
47	Dr. Satyabrata Nanda	Assistant Professor
48	Mr. Chitrasena Padhy	Assistant Professor
49	Dr. Atanu Deb	Associate Professor
50	Dr. Satarupa Modak	Assistant Professor
51	Dr. Akkamahadevi Naik	Assistant Professor

52	Dr. Ashok Kumar	Assistant Professor
53	Dr. Rahul Adhikary	Associate Professor
54	Dr. Arunabha Pal	Associate Professor
55	Dr. Saurav Barman	Associate Professor
56	Dr. Pedda Ghouse Peera S.K.	Assistant Professor
57	Dr. Shiv Kumar Udayana	Assistant Professor
58	Dr. Merugu Chandra Surya Rao	Assistant Professor
59	Dr. Nilanjana Datta	Assistant Professor
60	Ms. Basubadatta Sahu	Assistant Professor
61	Dr. Samapika Dalai	Assistant Professor
62	Dr. Arun Kumar Swain	Professor
63	Dr. Bairagi Chandra Behera	Professor
64	Dr. Maheswara Behera	Professor
65	Dr. Swapna nanda Rath	Professor
66	Dr. G. N. Inndresha	Professor
67	Dr. J. K. Panigrahi	Professor
68	Dr. Pranjaldv Roy	Professor
69	Dr. Feroj Ahmed	Professor
70	Dr. Subanini Pattnaik	Professor
71	Dr. Ajay Kumar Patra	Professor
72	Dr. Yashaswi Nayak	Associate Professor
73	Dr. Siba Prasad Parida	Associate Professor
74	Mr. Chandrasekhar Sahu	Asst. Professor
75	Ms. Kajal Samantara	Asst. Professor
76	Santilata Sahoo	Professor
77	Aruna Kumari Mishra	Professor
78	Anath Bandhu Das	Professor
79	Hemanta Kumar Patra	Professor
80	Dr. Tanuja Biswal	Professor
81	Dr. Narana Chandra Biswal	Professor
82	Dr. Arun Kumar Swain	Professor
83	Dr. Bairagi Chandra Behera	Professor
84	Dr. Maheswara Behera	Professor

85	Dr. Tapan Dash	Associate Professor
86	Dr. Santosh Kumar Satpathy	Asst. Professor
87	Dr. Nibedita Nayak	Asst. Professor
88	Dr. Gangadhar Purohit	Asst. Professor
89	Dr. Ramchandra Mohanty	Professor
90	Prof. Aruna Kumari Mishra	Professor
91	Dr. G C Nanda	Professor
92	Dr. Ananta Bandhu Das	Professor
93	Dr. Sagarika Parida	Associate Professor
94	Dr. Gyanaranjan Mahalik	Asst. Professor
95	Dr. Rukmini Mishra	Asst. Professor
96	Mr. B. Chakrapani	Asst. Professor
97	Mr. Ajay Kumar Prusty	Asst. Professor
98	Ms. Basubadatta Sahu	Asst. Professor
99	Dr. Udit Nandan Mishra	Assistant Professor
100	Dr. Gaikward D.J.	Assistant Professor
101	Dr. Praveen Boddna	Professor
102	Dr. Ria Mukhopadhyay	Assistant Professor
103	Dr. Gagan Kumar	Assistant Professor
104	Ms. Abhinandita Sahoo	Assistant Professor
105	Dr. Praveen Kumar	Assistant Professor
106	Prof.(Dr) V. Narsimha Reddy	Professor
107	Dr. Kalidindi Krishnam Raju	Associate Professor
108	Dr. Hari Ram Kumar Bandi	Assistant Professor
109	Dr. Niranjana Kumar Chaurasia	Assistant Professor
110	Dr. Sudhanshu Bala Nayak	Assistant Professor
111	Mr. Ajit Kumar Sahu	Assistant Professor
112	Ms. Lipsa Dash	Assistant Professor
113	Mr. Manisankar Bera	Assistant Professor
114	Mr. Chandrasekhar Sahu	Assistant Professor
115	Prof.(Dr) K. Satya Krishna Prasad	Professor cum Dean
116	Dr. Devanand T. N.	Assistant Professor
117	Dr. Sambid Swain	Assistant Professor
118	Dr. Amrutha Gopan	Assistant Professor
119	Mr. Biswajit Mohanty	Assistant Professor
120	Mr. Avijit Biswas	Assistant Professor

121	Ms. Hauzoukim	Assistant Professor
122	Dr. Anita Patra	Professor
123	Dr. Subhendu Kumar Mishra	Associate Professor
124	Dr. Durga Prasad Padhi	Associate Professor
125	Dr. Parle Kalyan Chakravarty	Assistant Professor
126	Dr. S. Kameswar Rao	Assistant Professor
127	Mr. Kalee Prasanna Patnaik	Assistant Professor
128	Dr. Debi Prasad Satapathy	Assistant Professor
129	Mr. Amit Kumar	Assistant Professor
130	Dr. Prajna Pani	Professor
131	Dr. Susanta Kumar Patnaik	Assistant Professor
132	Dr. Girish Prasad Rath	Assistant Professor
133	Dr. Amir Prasad Behera	Assistant Professor
134	Nandakishore Ray	Asst. Professor
135	Smita Jana	Asst. Professor
136	Jagannath Padhy	Assistant Professor
137	Tofan Kumar Nahak	Assistant Professor
138	Dr. Ardhendu Mouli Mohanty	Professor
139	Dr. Ramesh Chandra Mohanty	Professor
140	Dr. Laxman Kumar Malla	Asst. Professor
141	Dr. Nitesh Dhar Badgayan	Asst. Professor
142	Prajna Paramita Debata	Asst. Professor
143	Babuli Kumar Jena	Asst. Professor
144	Dilip Kumar Mohanta	Asst. Professor
145	Dr. Kapileswar Mishra	Professor
146	Dr. Kamal Kumar Barik	Associate Professor
147	Dr. Siba Prasad Mishra	Associate Professor
148	Sagarika Panda	Asst. Professor
149	Snigdha A Sanyal	Asst. Professor
150	Sadhana Devi	Asst. Professor
151	Vignesh M.	Asst. Professor
152	Mr. Vignesh	Assistant Professor
153	Dr. Gitanjali Behera	Assistant Professor
154	Ms. Sarmistha Sahu	Assistant Professor
155	Dr. Sivala kumar	Dean SoABE
156	Shekhar Sahu	Assistant Professor
157	Vivek Kumar	Assistant Professor
158	Santosh Paramanik	Assistant Professor



Dr. Prasanta Ku. Mohanty
Dean Academic



Prof. KVD Prakash
Dean - IIE & HRD