Centre/School/Special Centre: - School of Studies, Engineering and Technology

Department of Information Technology

Phone: - 7000559696, 9827164467

Email: - drrohitraja1982@gmail.com, rohit.raja@ggu.ac.in

Personal Webpage Link:-

Qualifications

- Post-Doctoral Research Work from Pentagram Research Centre Private Limited, Hyderabad, Telangana State, India under Dr E. G Rajan in 3D Medical Image processing.
- PhD in Computer Science and Engineering from Dr. C. V. Raman University Bilaspur(C.G.) Enrollment number CV/17211/1308 Date of Registration 03/01/2012 and final defense on 22 Aug 2016.
- M. E. Computer Technology and Applications passed in the year 2009 from Chhattisgarh Swami Vivekananda Technical University, Bhilai (Chhattisgarh) securing CPI **8.80**.
- B. E. Computer Science passed in the year 2004 from Pt. R.S.U University, Raipur securing **67%** of marks.

Area of Interest/Specialization

Digital Image Processing
Medical Image Processing
Computer Vision
Pattern Classification
Video Surveillance.
Machine Learning
Deep Learning
Pattern Recognition

Experience

S. No.	College	Position	Duration
1	Guru Ghasidas Viswavidyalaya (Central University), Bilaspur (C.G).	Associate Professor	24 Feb 2020 to till date ….

2	SREYAS Institute of Engineering and Technology, Nagole Hyderabad 500068	Professor	26 June 2017 to 22 Feb 2020
3	Shri Shankaracharya Technical Campus (SSTC), Bhilai, CG, India	Sr Assistant Professor	01 July 2006 to 24 June 2017
4	Continuing Education Cell in National Institute of Engineering, Raipur Chhattisgarh.	Tutor	05 Feb 2006 to 10 Apr 2006

Awards and Honors

- Received - **Outstanding Scientist Award**, International Scientist Awards on Engineering and Science and Medicine, 04 & 05 Jul 2020 Coimbatore, India.
- Received**: - Best Researcher Award**, 10th International Scientist Awards on Engineering, Science and Medicine 26 & 27 Sep 2020 Hyderabad, India
- Received "**Excellence in Research**" Award Under the Category of HEI Professor by Auropath Global Awards, 2019.
- Received "**Distinguished Research Award** "I2OR Awards 2019 during 4th International Conclave on Interdisciplinary Research for Sustainable Development 2020 (IRSD 2020)
- 2nd Runner up award in GRAND Finale of **SMART INDIA HACKATHON 2017** Ministry of Skill Development and Entrepreneurship, Government of India.
- **Best paper award in EPPCSIT'09** held at Guru Nanak Dev Engineering College, Ludhiana, India, for the paper entitled "Modelling and Simulation of Gait for Abnormal Foot Recognition using Neuro-Genetic approach", on 4th – 5th September 2009.
- **Best paper award in ICSCI 2010** held at Dr. MCR HRD INSTITUTE, Hyderabad, India, for the paper entitled "Anomaly in Foot Recognition through Human Gait using Hybrid Approach", on 27th – 30th January 2010.
- **Governor awards** in Scouts for Outstanding Performance for Society.

Best Peer Reviewed Publication (up-to 10)

[1]. **Rohit Raja,** Prakash Chandra Sharma, Md Rashid Mahmood, Dinesh Kumar Saini, Analysis of Anomaly Detection in Surveillance Video: Recent Trends and Future Vision, Multimedia Tools and Applications. **Accepted** [**SCI Index Impact Factor – 2.757].**

[2]. Prakash Chandra Sharma, **Rohit Raja**, Santosh Kumar Vishwakarma, Sanjiv Sharma, Analysis of Brain Signal Processing and Real-Time EEG Signal Enhancement, has been accepted for publication in Multimedia Tools and Applications. https://doi.org/10.1007/s11042-022-12887-z, pp 1-21. [**SCI Index Impact Factor – 2.757].**

[3]. Ramakant Chandrakar, **Rohit Raja**, Rohit Miri, Raj Kumar Patra, Upasana Sinha, Computer Succored Vaticination of Multi-Object Detection and Histogram Enhancement in Low Vision. Int. J. of Biometrics. Special Issue: Investigation of Robustness in Image Enhancement and Preprocessing Techniques for Biometrics and Computer Vision Applications. **[SCI Index Impact Factor – 1.2].**

[4]. Rohit Raja, Dinesh Gupta, Neeraj Varshney, Abhishek Kumar, Detection of Behavioral Patterns Employing a Hybrid Approach of Computational Techniques, Computers, Materials & Continua, vol. 72, no.1, pp. 2015–2031, 2022. **[SCI Index Impact Factor – 3.860].**

[5]. Amiya Kumar Sahu, Suraj Sharma, **Rohit Raja**, Deep Learning-based Continuous Authentication for an IoT-enabled healthcare service, Computers & Electrical Engineering, Volume 99, 2022, 107817, ISSN 0045-7906, https://doi.org/10.1016/j.compeleceng.2022. 107817. [**SCI Index Impact Factor – 4.152].**

[6]. Ramakant Chandrakar, **Rohit Raja**, Rohit Miri, Alok Kushwaha, Enhanced the moving object detection and object tracking for traffic surveillance using RBF-FDLNN and CBF algorithm, Expert Systems with Applications. 116306, ISSN: 0957-4174, https://doi.org 10.1016/j.eswa.2021.116306. **[SCI Index Impact Factor – 8.665]**.

[7]. Sonam Pandey, Rohit Miri, G. R. Sinha, **Rohit Raja**, AFD Filter and E2n2 Classifier for Improving Visualization of Crop Image and Crop Classification in Remote Sensing Image, International Journal of Remote Sensing. Vol 43, Iss 1, https://doi.org/10.1080/01431161.2021.2000062 **[SCI Index Impact Factor – 3.531].**

[8]. Ramakant Chandrakar, **Rohit Raja**, Rohit Miri. Animal detection based on deep convolutional neural networks with genetic segmentation. Multimedia Tools Appl (2021). https://doi.org/10.1007/s11042-021-11290-4 **[SCI Index Impact Factor – 2.757].**

[9]. Rohit Raja, Sandeep Kumar, Shilpa Choudhary, Hemlata Dalmia, An Effective Contour Detection based Image Retrieval using Multi-Fusion Method and Neural Network, Submitted to Wireless Personal Communication, PREPRINT (Version 2) available at Research Square DOI: 10.21203/rs.3.rs-458104/v1.

[10]. Amiya Kumar Sahu, Suraj Sharma, M. Tanveer, **Rohit Raja,** Internet of Things attack detection using hybrid Deep Learning Model, Computer Communications, Volume 176, 2021, Pages 146-154, ISSN 0140-3664, https://doi.org/10.1016/j.comcom.2021.05.024., [**SCI Index Impact Factor – 5.047].**

[11]. Sandeep Kumar, Arpit Jain, Anand Prakash Shukla, Satyendra Singh, **Rohit Raja**, Shilpa Rani "A Comparative Analysis of Machine Learning Algorithms for Detection of Organic and Nonorganic Cotton Diseases," Mathematical Problems in Engineering, vol. 2021, Article ID 1790171, 18 pages, 2021. https://doi.org/10.1155/2021/1790171. [**SCI Index Impact Factor – 1.009].**

[12]. K. Rohit Kumar, **Rohit Raja**. "Broadcasting the Transaction System by Using Blockchain Technology". Design Engineering, June 2021, pp. 2115 -21, http://thedesignengineering .com/index.php/DE/article/view/1912. **[Scopus Index]**

[13]. Laxmikant Tiwari, **Rohit Raja**, Vineet Awasthi, Rohit Miri, G.R. Sinha, Monagi H. Alkinani, Kemal Polat, Detection of lung nodule and cancer using novel Mask-3 FCM and TWEDLNN algorithms, Measurement, Volume 172, 2021, 108882, ISSN 0263-2241, https://doi.org/10.1016/j.measurement.2020.108882. **[SCI Index Impact Factor – 5.131]**

[14]. Rohit Raja, Sandeep Kumar, Md Rashid, Color Object Detection Based Image Retrieval using ROI Segmentation with Multi-Feature Method, in Wireless Personal Communication Springer Journal, Print ISSN0929-6212 online ISSN1572-834 pp-1-24, https://doi.org/10.1 007/s11277-019-07021-6. **[SCI Index Impact Factor – 1.061]**

[15]. Santosh Kumar Vishwakarma, Prakash Chandra Sharma, **Rohit Raja**, Vandana Roy, Sakshi Tomar, An Effective Cascaded Approach for EEG Artifacts Elimination, International Journal of Pharmaceutical Research, Vol 12, Issue 4, ISSN 0975-2366, https://doi.org/10.31838/ijpr/2020.12.04.653. **[Scopus Index Impact Factor- 0.28]**

[16]. Sumati Pathak, **Rohit Raja**, Vaibhav Sharma, Srinivas Ambala, ICT Utilization and Improving Student Performance in Higher Education, International Journal of Recent Technology and Engineering (IJRTE) at Volume-8 Issue-2, pp. 5120-5124, July 2019. **[Scopus Index Impact Factor- 0.11]**

[17]. Rakesh Kumar Lenka, Amiya Kumar Rath, Zhiyuan Tan, Suraj Sharma, Deepak Puthal, N V R Simha, **Rohit Raja**, Shankar Sharan Tripathi, and Mukesh Prasad Building Scalable Cyber-Physical-Social Networking Infrastructure Using IoT and Low Power Sensors, , Vol. 6, Iss. 1, pp. 30162-30173, Print ISSN: 2169-3536, Online ISSN: 2169-3536, Digital Object Identifier: 10.1109/ACCESS.2018.2842760. **[SCI Index Impact Factor- 3.74]**

[18]. **Rohit Raja**, Tilendra Shishir Sinha, Raj Kumar Patra and Shrikant Tiwari (2018), Physiological Trait Based Biometrical Authentication of Human-Face Using LGXP and ANN Techniques, Int. J. of Information and Computer Security, Vol. 10, Nos. 2/3, pp. 303- 320. **[Scopus Index Impact Factor- 0.8]**

[19]. **Rohit Raja**, Tilendra Shishir Sinha, Ravi Prakash Dubey (2015), Recognition of human-face from side-view using progressive switching pattern and soft-computing technique**,** Association for the Advancement of Modelling and Simulation Techniques in Enterprises, Advance B, Vol. 58, N 1, pp. 14-34, ISSN: -1240-4543. **[Scopus Index]**

[20]. Tilendra Shishir Sinha, Raj kumar Patra, and **Rohit Raja** (2011) A Comprehensive analysis of human gait for abnormal foot recognition using Neuro-Genetic approach, International Journal of Tomography and Statistics (IJTS), Vol. 16, No. W11, pp. 56-73, ISSN: 2319-3339, http://ceser.res.in/ceserp/index.php/ijts. **[Scopus Index]**

Recent Books/Book Chapters/Monographs etc.

Books

1. **Rohit Raja,** Sandeep Kumar, K. Ramya Laxmi and Shilpa Choudhary "**Artificial Intelligence and Machine Learning in 2D/3D Medical Image Processing**" in Taylor & Francis Publishing House USA. ISBN 1000337138, 9781000337136.

2. Sandeep Kumar, **Rohit Raja** and K. Rohit kumar **"Blockchain and Machine Learning Based Emerging Technology"** Published by is an imprint of International Book Market Service Ltd. Brivibas gatve 197, LV-1039, Riga, Latvia, European Union. ISBN No:-9786138945503.

3. **Rohit Raja**. Sandeep Kumar, Suresh Babu, Suresh Akela, 2nd International Conference on Artificial Intelligent, Blockchain & Data Sciences (ICAIBDS), 29th-30th November, 2019, Hyderabad. ISBN Number: - 987-81-945742-4-8.

4. Sandeep Kumar, **Rohit Raja,** Shrikant Tiwari, Shilpa Rani, "**Cognitive Behavior & Human Computer Interaction based on Machine Learning Algorithm**", Wiley & Scrivener Publishing in 2021, ISBN No: - 13:9781119791607.

5. **Rohit Raja,** Kapil Kumar Nagwanshi, Sandeep Kumar, K. Ramya Laxmi**, Data Mining Technologies using Machine Learning Algorithms**" is to be published by, Wiley & Scrivener Publishing in 2021 ISBN No: -13:9781119791782.

6. Sanjay Kumar, **Rohit Raja**, Alok Kumar Singh Kushwaha, Saurabh Kumar, Raj Kumar Patra, **Green Computing and its Applications**, is to be published by, Nova Science Publication. ISBN: 978-1-68507-357-2, https://doi.org/10.52305/ENYH6923.

7. Md. Rashid Mahmood, **Rohit Raja**, Sandeep Kumar, Kapil Nagwanshi, **Ambient Intelligence and Internet of Things: Convergent Technologies,** going to be published by Scriverner Publishing-WILEY, ISBN 9781119821236. (**In Press)**

8. Rekh Ram Janghel, **Rohit Raja**, Korhan Cengiz, Next Generation Healthcare Systems Using Soft Computing Techniques, is to be published by CRC Press, USA. ISBN 9781032107974 **(In Press).**

9. Naresh Kumar Nagwani, Riju Bhattacharya, **Rohit Raja**, Reham R. Mostafa, Graph Mining: Application Tools, and Techniques, is to be published by, Wiley & Scrivener Publishing in 2023. (Ongoing)**.**

10. **Rohit Raja,** "Information Systems Management", is going to be INTECHOPEN LIMITED, incorporated and registered in England and Wales with company number 11086078 and a registered office at 5 Princes Gate Court, London, United Kingdom, SW7 2QJ. (Ongoing)

Book Chapters

[1]. Tilendra Shishir Sinha, Devanshu Chakraverty, Rajkumar Patra and **Rohit Raja,** "Modelling **and Simulation for the Recognition of Physiological and Behavioral Traits Through Human Gait and Face Images**", Discrte Wavelet Transforms- A Compendium of New Approaches and Resents Application, by Intech China ISBN 978-953-51-0940-2, pp. 95-125, Feb 2013, edited by Dr. Awad Kh. Al. Asmari http://dx.doi.org/10.5772/52565.

[2]. Tilendra Shishir Sinha, Raj Kumar Patra, **Rohit Raja** and Ravi Prakash Dubey, "**Progressive-Regressive Strategy for Biometrical Authentication**", In the press to be published as a Book Chapter in a book entitled "Discrete Wavelet Transform" by Intech Europe, ISBN 978-953-51-4356-7, 2015 edited by Dr. Dumitru Baleanu.

[3]. Patra R.K., **Raja R**., Sinha T.S. (2018) **Extraction of Geometric and Prosodic Features from Human-Gait-Speech Data for Behavioral Pattern Detection**: Part II. In: Bhattacharyya S., Chaki N., Konar D., Chakraborty U., Singh C. (eds) Advanced Computational and Communication Paradigms. Advances in Intelligent Systems and Computing, Vol 706. Springer, Singapore. ISBN 978-981-10-8236-8.

[4]. Tiwari L**., Raja R**., Sharma V., Miri R. (2020) **Fuzzy Inference System for Efficient Lung Cancer Detection.** In: Gupta M., Konar D., Bhattacharyya S., Biswas S. (eds) Computer Vision and Machine Intelligence in Medical Image Analysis. Advances in Intelligent Systems and Computing, vol 992. Springer, Singapore. Online ISBN978-981-13-8798-2.

[5]. Kumar S., **Raja R**., Gandham A. (2020) **Tracking an Object Using Traditional MS (Mean Shift) and CBWH MS (Mean Shift) Algorithm with Kalman Filter.** In: Johri P., Verma J., Paul S. (eds) Applications of Machine Learning. Algorithms for Intelligent Systems. Springer, Singapore. https://doi.org/10.1007/978-981-15-3357-0_4.

[6]. **Rohit Raja,** Hiral Raja, Raj Kumar Patra, Kamal Mehta, Akanksha Gupta, K. Ramya Laxmi, **Assessment methods of Cognitive ability of human brains for inborn intelligence potential using Pattern Recognition**, IntechOpen - Biometric Systems ISBN 978-1-78984-188-6

[7]. Sharma, P. C., Bansal, S., **Raja, R**., Thwe, P. M., Htay, M. M., & Hlaing, S. S. (2020). **Concepts, strategies, and challenges of data deduplication.** Data Deduplication Approaches: Concepts, Strategies, and Challenges, 37.

[8]. **Rohit Raja**, Sandeep Kumar, K. Rohit Kumar, **An Overview of Blockchain Technology, Architecture and Future Scope**, Blockchain and Machine Learning Based Emerging Technology Published by is an imprint of International Book Market Service Ltd. Brivibas gatve 197, LV-1039, Riga, Latvia, European Union. ISBN No: - 9786138945503.

[9]. Laxmikant Tiwari, **Rohit Raja**, Vineet Awasthi, Rohit Miri **"Detection of Nodule and Lung Segmentation Using Local Gabor XOR Pattern in CT Images"**, Artificial Intelligence and Machine Learning in 2D/3D Medical Image Processing, CRC Press eBook ISBN9780429354526.

[10]. **Rohit Raja**, Sandeep Kumar, Shilpa Rani, K. Ramya Laxmi, "**Lung Segmentation and Nodule Detection in 3D Medical Images Using Convolution Neural Network",** Artificial Intelligence and Machine Learning in 2D/3D Medical Image Processing, CRC Press eBook ISBN9780429354526.

[11]. **Rohit Raja,** Neelam Sahu, Sumati Pathak, **Teaching Learning Process and Brain Computer Interaction using ICT Tools**, "Cognitive Behavior & Human Computer Interaction based on Machine Learning Algorithm", Wiley & Scrivener Publishing in 2021, ISBN No: - 13:9781119791607.

[12]. Santosh R. Durugkar, **Rohit Raja**, Kapil Kumar Nagwanshi, Sandeep Kumar, **Introduction to Data Mining**, Data Mining Technologies using Machine Learning Algorithms" is to be published by, Wiley & Scrivener Publishing in 2021 ISBN No: - 13:9781119791782.

Research Supervision

S.No	Name of Candidate	Year of Registration	Date of Viva-voce examination	Area of Research	Status
1	Ms. Sumati Pathak	2017	29/08/2021	Data Mining	Completed

2	Mr Ramakant Chandrakar	2017	05/10/2021	Computer Vision	Completed
3	Mr Laxmikant Tiwari	2017	08/04/2022	Medical Image Processing	Completed
4	Mr. Kailash Prasad Dewangan	2018	Pursuing	Computer Network	On going
5	Mr Agnivesh Pandey	2022	Pursuing	Digital Image Processing	On going
6	Mr Abhishek Jain	2022	Pursuing	Biomedical Signal	On going

Administrative Responsibilities

- Head of the Department of Information Technology School of Studies (Engineering and Technology).
- Nodal officer for Skill Development Cell at GGV (A Central University).
- Member of IT Cell
- Member of Samarth Portal
- NBA Coordinator of School of Studies (Engineering and Technology), GGV (A Central University).
- Member of School Board at School of Studies (Engineering and Technology), GGV (A Central University).
- NAAC Criteria 2 coordinator at GGV (A Central University).
- Members of Board of Studies of CSE and IT Department at SSTC Bhilai, CG Indian.
- Training and Placement Coordinator (SoS, E&T)

Additional Information

Publications Summary:

Patent (National)	**: 06 Granted, 10 Published**
Patent (International)	**: 11 Granted**
Copyright	**: 02**
International Journal	**: 73**
International Conference	**: 25**
National Conference	**: 05**
Books	**: 06 Published, 02 In press, 02 Ongoing**
Book Chapters	**: 12**

National Patent Filed, Published and Granted: -

1. **Indian Patent Granted:** An Apparatus and method for remotely monitoring an aquatic animal and classification thereof, Application Number 201941034109 and filing Date 23/08/2019, Publication date 27/09/2019. Granted Application, **Patent Number: 350637**, Date of certificate Issue 02/11/2020.
2. **Indian Patent Granted: -** Face Emotions Recognition Based On Deep Learning for Smart and Secured Child Care Taker, Application Number 202111002128, filing Date 17/01/2021, Publication date 29/01/2021, **Patent number 385681**, Date of certificate Issue 30/12/2021.
3. **Indian Patent Granted: -** Method and System for rendering a panoramic view of traffic to a driver of a vehicle, Application Number 201941000049, Date of Filing Application 01/01/2019, Publication Date: 08/02/2019, **Patent number 385899,** Date of certificate Issue 03/01/2022.
4. **Indian Patent Granted**: - System and Method for Object Detection and Object Tracking for Traffic Surveillance, Application Number 202121026466 and filing Date 14/06/2021, **Publication date 23/07/2021**. **Patent number 389902,** Date of certificate Issue 21/02/2022.
5. **Indian Patent Granted**: - Method and System for wirelessly charging of an appliance, Application Number 201811040942, Date of Filing Application 30/10/2018, Publication Date: 28/12/2018, **Patent number 394722**, Date of certificate Issue 12/04/2022.
6. **Indian Patent Granted**: - An Unmanned Aerial Vehicle for Surveillance**,** Application Number 202021045472 and filing Date 20/10/2020, Publication Date 13/11/2020. Patent number 401497, Date of certificate Issue 18/07/2022.
7. **Patent Published: -** Deep Learning Based Robotic Judge for Rash Driving Crime, Application Number 202141002082 and filing Date 16/01/2021, Publication date 22/01/2021.
8. **Patent Published:** Systems and methods for Two-Wheeler Security**,** Application Number 201921008522 and filing Date 05/03/2019, Publication Date 16/08/2019.
9. **Patent Published**: Identify Pollutants from Vehicle Exhaust at Toll Plazas with Provision of Penalty, Application Number: 201911005535, Filing date 12/02/2019, Publication Date 12/07/2019
10. **Patent Published:** Method and System for determining a position of an object in a suspicious condition, Application Number: 201941004200, Date of Filing Application 02/02/2019. Publication Date: 08/02/2019.
11. **Patent Published:** Method and System for Aiding driver of a vehicle to ensure a safe driving environment, Application Number 201941000050, Date of Filing Application 01/01/2019, Publication Date: 08/02/2019.
12. **Patent Published:** Mechanisms to Prevent Road Accidents in Low Light Intensity Environments Using a Drone System**,** Application Number 201821047908, Date of Filing Application 18/12/2018, Publication Date: 08/02/2019.
13. **Patent Published:** Methods and Systems for Rendering Road Information form a First Vehicle to a second Vehicle, Application Number 201841044218, Date of Filing Application 23/11/2018, Publication Date: 07/12/2018.

14. **Patent Published:** Computer Vision and Its Application in Assessment of Cognitive Ability of Human Brain, Application Number 201821034835, Date of Filing Application 15/09/2018, Publication Date: 07/12/2018.
15. **Patent Published:** A Novel Smart Carbonless Cooking Gasifier, Application Number 202031044344 Date of Filing Application 12/10/2020, Publication Date: 04/12/2020.
16. **Patent Published:** - System and Method for providing Cyber Security in Big Data, Application number 2020 Filed on 08/06/2020.

International Patent Published and Granted: -

17. **Australian Patent Granted: -** SBDA- Secured Bra for women safety, smart and secured bra for women safety based on Deep Learning Algorithms, Patent Number 2020102636. Granted on: - 2020-10-08.
18. **Australian Patent Granted: -** An apparatus and method for remotely monitoring an aquatic animal and classification thereof, Application Number 2020103852. Granted on: - 2020-12-02
19. **Australian Patent Granted: -** Dynamic Digital Twin System and A Method of Operating Thereof, Patent number 2020103853, Granted on: - 2020-12-02.
20. **Australian Patent Granted: -** A System and A Method for Automated Irrigation Using Internet of Things, Application Number 2020104385, Granted on: - 2020-12-29.
21. **Australian Patent Granted: -** Self-Cleaning and Germ-Killing Revolving Public Toilet for Covid, Patent Number 2021100059, Granted on: - 2021-01-06.
22. **Australian Patent Granted: -** Novel 3d Printed Bionic Prosthetic Leg Application Number 2021100285. Granted on: - 2021-01-17.
23. **Australian Patent Granted:** - An Internet of Things Based Smart Parking System and Its Method Thereof, Application Number 2021102314, Granted on 2021-05-01.
24. **Australian Patent Granted: -** Delicate Vibratory Instrument for Neonates Oral Motor Simulation Patent Number: - 2021101385. Granted on: - 2021-03-17.
25. **Australian Patent Granted: -** A System and Method for Preventing Corona Virus Transmission, Patent Number: - 2021102958, Granted on: - 2021-05-29.
26. **Australian Patent Granted:** - An Emotion Detection System and Method Using Pattern Recognition, Patent Number: - 2021106885.
27. **Germany Patent Granted: -** Traffic surveillance system, Application number 20 2021 103 650.8 Filling Date 07/07/2021 Granted on: 04/03/22

Copy Right Grant:

1. **Copy Right Grant: -** AROGYA ODISHA- A Novel Mobile Application Based Empowering Telemedicine, Registration Number: L-98057/2020
2. **Copy Right Grant: -** IOT Based Disinfectant Sanitizer Tunnel Against Covid-19 Using Human Detecting Sensors and End to End Security Model, Registration Number: L-98059/2020.