

Faculty Details for Department Website

Name: Dr. C. Heltin Genitha

Degree: M.E, PhD

Designation: Professor

Experience: 19 years 6 months

Area of Specialization: Satellite Image Processing, Artificial Intelligence

Contact (Email id): heltingenitha@stjosephs.ac.in

Subjects Handled:

Cryptography and Network Security

Computational Intelligence

Theory of Computation and Compiler Design

Data Structures

Problem Solving and Python Programming

Computer Architecture

Computer Networks

Publications (Journals & Conferences):

1. G. Annapoorani, P. Manikandan, **C. Heltin Genitha**, “Evolving medical image classification: a three-tiered framework combining MSPLnet and IRNet-VGG19”, *Evolving Systems*, Vol. 16, No. 19, E ISSN: 1868-6486, Print ISSN: 1868-6478, <https://doi.org/10.1007/s12530-024-09647-9>, **Impact Factor: 2.8**, 2025.
2. Jeyanthi, J. Visumathi, **C. Heltin Genitha**, “Enhanced Two-Stream Bayesian Hyper Parameter Optimized 3D-CNN Inception-v3 Based Drop-ConvLSTM2D Deep Learning model for Human Action Recognition”, *Information Technology and Control*, DOI: <https://doi.org/10.5755/j01.itc.53.1.32625>, Print ISSN: 1392-124X, E ISSN: 2335-884X Vol. 53, No. 1, April 2024.
3. J. Aruna Jasmine and **C. Heltin Genitha**, “Deep convolutional neural networks with Bee Collecting Pollen Algorithm (BCPA)-based landslide data balancing and spatial prediction”, *Journal of Intelligent & Fuzzy Systems*, Print ISSN 1064-1246, E ISSN 1875-8967, DOI: 10.3233/JIFS-234924, Vol. 46, No. 1, pp. 597-617, 2024. **Impact Factor: 2.00**, 2024.
4. V. Nirmala, S. Leninisha, **C. Heltin Genitha**, S. Kumar, “Automated Breast Boundary Segmentation to Improve the Accuracy of Identifying Abnormalities in Breast Thermograms”, *IETE Journal of Research*, Publisher: Taylor and Francis, Print ISSN: 0377-2063, E ISSN: 0974-780X,

<https://doi.org/10.1080/03772063.2023.2194277>, pp.1-10, **Impact Factor: 2.333**, Mar 2023.

5. V. Nirmala, S. Leninisha, **C. Heltin Genitha**, G. Govindarajan and P. Sasipriya “Enhanced Segmentation of Inflamed ROI to Improve the Accuracy of Identifying Benign and Malignant Cases in Breast Thermogram”, Journal of Oncology, Vol. 2021, Publisher: Hindawi Publishing Corporation, E-ISSN: 16878450, Print ISSN: 16878469, doi.org/10.1155/2021/5566853, **Impact Factor: 2.206**, April 2021.
6. **C. Heltin Genitha**, M. Indhumathi, S. Sanjeevi, “A genetic algorithm based approach to estimate the volume of a drinking water reservoir in Chennai city, South India, using multi-spectral satellite images”, Geocarto International, Taylor and Francis, DOI: 10.1080/10106049.2019.1687590, Vol. 6, No. 17, pp. 1993-2009, **Impact Factor: 2.365**, 2021.
7. **C. Heltin Genitha**, M. Sowmya, Tharani Sri, “Comparative Analysis for the Detection of Marine Vessels from Satellite Images Using FCM and Marker-Controlled Watershed Segmentation Algorithm”, Journal of the Indian Society of Remote Sensing, Vol. 48, No. 8, pp.1207-1214, **Impact Factor: 0.997**, 2020.
8. **Heltin Genitha, C.** and Vani, K. “A Hybrid Approach to Super-Resolution Mapping of Remotely Sensed Multi-spectral Satellite Images Using Genetic Algorithm and Hopfield Neural Network”, Journal of the Indian Society of Remote Sensing, Vol. 47, No. 4, pp. 685–692, April 2019. **Impact Factor: 0.725**, 2019.
9. **C. Heltin Genitha**, M. Indhumathi, S. Shanmugapriya, S. Sanjeevi, “Super Resolution Mapping of Hyperspectral Satellite images using Hybrid Genetic Algorithm”, IET Image Processing, doi: 10.1049/iet-ipr.2018.5108, Vol. 14, No. 7, pp. 1281-1290, **Impact Factor: 2.004**, 2019.
10. S. Shanmuga Priyaa , VS Jeyakanthan, **C Heltin Genitha**, S Sanjeevi, “Estimation of Water-Spread Area of Singoor Reservoir, Southern India by Super Resolution Mapping of Multispectral Satellite Images”, Journal of the Indian Society of Remote Sensing, doi:10.1007/s12524-017-0666-x, Vol. 46, pp.121-130, **Impact Factor: 0.725**, Mar 2018.
11. R. Kavin Rajesh, **C.Heltin Genitha**, “A Novel Technique for Multi-Spectral Image Compression Using SPIHT Algorithm”, International Journal of Applied Engineering Research, ISSN 0973-4562, vol.10, No.70, pp.298-303, Sep 2015.
12. ShanmugaPriyaa,S., **Heltin Genitha, C.**, Jeyakanthan, V.S. and Sanjeevi, S.,” Super-resolution mapping of hyperspectral images for estimating the water-spread area of Peechi reservoir, southern India”, Journal of Applied Remote Sensing, Vol. 8, No. 1, pp. 083510-083510, **Impact Factor: 1.107**, 2014.

International Conference

1. S. Nithyashree, M. Robin and **C. Heltin Genitha**, “Visualizing and analyzing forest fire using YOLOv8 Algorithm”, 2024 International Conference on Communication, Computing and Internet of Things (IC3IoT), E ISBN:979-8-3503-5268-9, Print ISBN:979-8-3503-5269-6, doi: 10.1109/IC3IoT60841.2024.10550227, pp. 1-5, Chennai, India, 2024
2. S. Vedapuri, S. Evangeline and **C. Heltin Genitha**, “Corporate Tax Compliance and Fraud Prevention System by Principal Component Analysis and Auto-Encoder”, 2024 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI), E ISBN:979-8-3503-8944-9, Print ISBN: 979-8-3503-8943-2, doi: 10.1109/ACCAI61061.2024.10601922, pp. 1-9, Chennai, India, 2024.
3. A. Reno Riliya. S. Priyanka and **C. Heltin Genitha**, "Automatic Framework for the Detection of Fish Aggregation in Acoustic Images Using Deep Learning

Algorithms," 2024 5th International Conference on Electronics and Sustainable Communication Systems (ICESC), E ISBN:979-8-3503-7994-5, Print ISBN:979-8-3503-7995-2, doi: 10.1109/ICESC60852.2024.10689790, pp. 1796-1801, Coimbatore, India, 2024.

4. N. Vidhya, G. D. Tharani Kumari and **C. Heltin Genitha**, "Timely Detection of Stem Borer Pest Infestation through Convolutional Neural Network", 2024 10th International Conference on Advanced Computing and Communication Systems (ICACCS), E ISSN: 2575-7288, Print ISSN: 2469-5556, doi: 10.1109/ICACCS60874.2024.10717191, pp. 1497-1501, Coimbatore, India, 2024.
5. A. Angeline Valentina Sweety, A. Maria Delphiya, S. Rejoline Vincima, N. Kavya, J. M. Jresha and **C. Heltin Genitha**, "Automatic Segmentation and Extraction of Skin Lesion in Dermoscopic images using Image Processing," 2023 International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSES), pp. 1-6, E ISBN:979-8-3503-1920-0, Print ISBN:979-8-3503-1921-7, doi: 10.1109/ICSES60034.2023.10465429, Chennai, India, 2023.
6. **C. Heltin Genitha**, S. Abishek Danny, A. S. Hepsi Ajibah, S. Aravint and A. Angeline Valentina Sweety, "AI based Real-Time Traffic Signal Control System using Machine Learning," 2023 4th International Conference on Electronics and Sustainable Communication Systems, E ISBN:979-8-3503-0009-3, ISBN:979-8-3503-0010-9, doi: 10.1109/ICESC57686.2023.10193319, Coimbatore, India, pp. 1613-1618, 2023.
7. **C. Heltin Genitha**, I. Kalaivani, A. S. Hepsi Ajibah, S. Jalagandeswaran and K. Balamurugan, "Automated Framework for the Tuberculosis Detection and Classification in X-Ray Images Using Deep Learning Algorithm," 2023 International Conference on Self Sustainable Artificial Intelligence Systems (ICSSAS), E ISBN:979-8-3503-0085-7, ISBN:979-8-3503-0086-4, doi: 10.1109/ICSSAS57918.2023.10331715, pp. 215-220, Erode, India, 2023.
8. **C. Heltin Genitha**, P. Rajaji, S. Rahul, "Detection of Lane and Speed Breaker Warning System for Autonomous Vehicles using Machine Learning Algorithm", 2022 3rd International Conference on Intelligent Computing, Instrumentation and Control Technologies: Computational Intelligence for Smart Systems, Publisher: IEEE, E ISBN:978-1-6654-1005-2, Print ISBN:978-1-6654-1006-9, doi: 10.1109/ICICT54557.2022.9917716, pp. 401-406, 2022. **(Best paper Award)**
9. **C. Heltin Genitha**, **R. Kiruba** Sangaree, **V. Kokilavani**, "Intelligent Face Mask and Body Temperature Detection System using Machine Learning Algorithm", 2022 International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems, Publisher: IEEE, E ISBN: 978-1-6654-7413-9, Print ISBN: 978-1-6654-7414-6, doi: 10.1109/ICSES55317.2022.9914237, pp. 1-6, ICSES 2022.
10. J. Aruna Jasmine, **C. Heltin Genitha**, "Deep Learning on Landslides: An Examination of the Potential Commitment an Expectation of Danger Evaluation in Sloping Situations", International Conference In Computational Intelligence in Data Mining, Publisher: Springer, Print ISBN: 978-981-16-9446-2, E ISBN 978-981-16-9447-9, <https://doi.org/10.1007/978-981-16-9447-9>, pp. 385-395, Springer, Singapore, May 2022.
11. **C. Heltin Genitha**, E. Dhinesh, A. Jagan, "Detection of Leaf Disease Using Principal Component Analysis and Linear Support Vector Machine", IEEE 11th International Conference On Advanced Computing, MIT, Chennai, ISBN No: 978-1-7281-5285-1, pp. 351-356, 18-20 Dec 2019.

12. **C.Heltin Genitha**, M. Indhumathi, “Super Resolution Mapping of Satellite Images to Estimate the Capacity of Reservoirs Around Chennai City”, 37th Asian Conference of Remote Sensing, Srilanka, 2017.
13. **C.Heltin Genitha**, R. Kavin Rajesh, “A Technique for Multi-Spectral Satellite Image Compression Using EZW Algorithm”, IEEE International Conference on Control, Instrumentation, Communication and Computational Technologies, pp. 781-786, 2016.
14. R. Kavin Rajesh, **C.Heltin Genitha**, “A Novel Technique for Multi-Spectral Image Compression Using SPIHT Algorithm”, International Conference On Advances In Engineering And Applied Sciences Icaeas-2015, April 29 2015.
15. **Heltin Genitha**, C. and Vani, K. “Sub-pixel Classification using FCM and FWCM Algorithms” In Proceedings of IEEE Fifth International Conference on Advanced Computing (ICoAC-2013), pp.67-71, 2013.
16. **Heltin Genitha**, C. and Vani, K. “Classification of Satellite Images using New Fuzzy Cluster Centroid for Unsupervised Classification Algorithm”, In Proceedings of 2013 IEEE International Conference on Information and Communication Technologies (ICT 2013), pp. 675-679, 2013.
17. **Heltin Genitha**, C. and Vani, “ Super Resolution Mapping of Satellite Images using Hopfield Neural Networks”, In Proceedings of IEEE International Conference on Recent Advances in Space Technology Services and Climate Change (RSTSCC), pp. 114-118, 2010.

Book Chapters

1. Jeyakanthan, V.S., ShanmugaPriyaa, S., **Heltin Genitha**, C. and Sanjeevi, S. , ”Reservoir capacity estimation using remote sensing data- Per-pixel classification and Super resolution mapping approaches’, In Proceedings of International Conference on Hydrology and Watershed Management, Organised by Center for water resources, JNTU, Hyderabad, 29th Oct 2014.
2. **C. Heltin Genitha**, M. Indhumathi, “A Hybrid Approach to Super Resolution Mapping for Water-Spread Area and Capacity Estimation of Reservoir Using Satellite Image (India)”, Advances in Remote Sensing and Geo Informatics Applications, Proceedings of the 1st Springer Conference of the Arabian Journal of Geosciences (CAJG-1), pp.65-68, Tunisia 2018.

Patents Published

1. **Dr. C. Heltin Genitha**, Dr. Anil Kumar, Dr. Leena Homraj Patil, Prof. Sweta Arvind Raut, Shraddha Chourasiya, Dr. Uma Pravin Patel, Dr. Amar Kumar Dey, Dr Karunaiah Bonigala, Dr Sandeep Rout, Vidhya P, Dr.G.Saravanan, A Barkathulla, “Smart Machine Learning based Approach Integrated with Internet of Things (IOT) To Predict The Plant Growth And Disease”, Indian Patent 202241065125, Filed Date: 14/11/2022, Published Date: 25/11/2022.
2. Dr. Inamul Hasan Madar, Shital Bhushan Mehta, Dr. N.Gaoudam, **C. Heltin Genitha**, S. Jayasree, Dr S. Geeitha, Dr. K Rajendra Prasad, Mamatha B, Dr V Kavitha, Atal

Bihari Singh, Dr. K. Srinivasa Rao, Dr.A. Senthilkumar, “Early and Accurate Prediction of Kidney Diseases using Algorithms of Deep Learning”, Indian Patent 202441006260, Filed Date: 31/01/2024, Published Date: 09/02/2024.

3. Sudip Barik, Ravikiran.H.N, Aniket Dilip Marathe, **C. Heltin Genitha**, Dr. D. Sharada Mani, Bimal Nepal, Dr. P. Parimala, Dr S Saravana Kumar, Pavithra A, Dr. B. Karunamoorthy, Dr Sayantan Sinha, Dr. Dhanusha C, “Automated Kidney Stone Detection in CT Scans Images using Machine Learning Techniques”, Indian Patent 202431080018, Filed Date: 21/10/2024, Published Date: 01/11/2024.
4. **C Heltin Genitha** S. Keshava Perumal, R.Shivaa, “Smart Road Paint Revolutionizing Pothole Detection for Autonomous Vehicles”, Indian Patent 202441083855, Filed Date: 02/11/2024, Published Date: 08/11/2024.

FDP Organized

- Organized 5 days Online FDP on Applications of Image Processing in association with National Centre for Coastal Research, Ministry of Earth Sciences, Government of India, June 2020.
- Organized a Webinar on Recent Trends in Cyber Crime, June 2020
- Organized Anna University certified seven days Faculty Development Training Programme on Computer Architecture, June 2014.

Funded Projects

Title of the Project: Super-Resolution Mapping Algorithms for Accurate Estimation of the Capacity of Reservoirs of Chennai City using Satellite Images

Funding Agency: Department of Science and Technology, Govt. of India

Duration: 2016-2018 (2 years)

Status: Completed

Amount: 9,31,000

Google Scholar ID: <https://scholar.google.co.in/citations?user=K09sFJ8AAAAJ&hl=en>

Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=56419984000>

WOS researcher ID: <https://www.webofscience.com/wos/author/record/AAH-8154-2020>