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Designation : Senior Assistant Professor

Department : Department of Computer Science & Engineering
(JOINED THE INSTITUTE IN 2022)

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RESEARCH INTERESTS

- ✓ Image Processing
- ✓ Pattern Recognition
- ✓ Machine learning
- ✓ Computer Vision

Academic Qualifications

Ph. D (CSE): OTR University (CET, BBSR), (BPUT,RKL),Odisha, India.

M. Tech (CSE): SOA University, BBSR, Odisha, India.

B. Tech (CSE): Biju Patnaik University of Technology, Odisha, India.

Teaching Experience/Industrial Experience/Research Experience

- ✓ More than 12 years of Experience
- ✓ Academic: 9 years
- ✓ Research : 3 years

PUBLICATIONS

JOURNAL ARTICLES:

- [1]. Sundar, R., Purushotham Reddy, M., **Sethy, A.**, Selvam, K., Abidin, S., Chakrabarti, P & Selvan, P. (2024). Cloud computing encrypted image retrieval strategy in cloud computing using a hybrid optimization algorithm. *Journal of Intelligent & Fuzzy Systems*, (Preprint), 1-15.
- [2]. **Sethy, A.**, Rout, A. K., Uriti, A., & Yalla, S. P. (2023). A Comprehensive Machine Learning Framework for Automated Book Genre Classifier. *Revue d'Intelligence Artificielle*, 37(3), 745.
- [3]. Srinivas, L. N. B., AM Viswa Bharathy, Sravanth Kumar Ramakuri, **Abhisek Sethy**, and Ravi Kumar. "An optimized machine learning framework for

- crop disease detection." *Multimedia Tools and Applications* 83, no. 1 (2024): 1539-1558.
- [4]. **Sethy, A.**, Patra, P.K., Nayak, S.R. (2022). A hybrid system for hand written character recognition with high robustness. *Traitement du Signal*, Vol.39, No.2, pp.567-576. <https://doi.org/10.18280/ts.390218>.
- [5]. Aguru, A. D., Babu, E. S., Nayak, S. R., **Sethy, A.**, & Verma, A. (2022). Integrated Industrial Reference Architecture for Smart Healthcare in Internet of Things: A Systematic Investigation. *Algorithms*, 15(9), 309.
- [6]. **Sethy, A.**, Patra, P. K., Nayak, S. R., & Poonia, R. C. (2022). Offline Handwritten Character and Numeral Recognition: A Kernel-Based Approach. *International Journal of Social Ecology and Sustainable Development (IJSESD)*, 13(1), 1-21. <http://doi.org/10.4018/IJSESD.295087>. (Scopus, wos).
- [7]. Rout, Ajit Kumar, **Abhisek Sethy**, and Soumya Ranjan Nayak. "Adaptive MLELM-AE model for efficient prediction of stock market data." *Journal of Statistics and Management Systems* 25, no. 7 (2022): 1541-1552.
- [8]. Yalla, S.P., Uriti, A., **Sethy, A.** (2022). GUI implementation of modified and secure image steganography using least significant bit substitution. *International Journal of Safety and Security Engineering*, Vol. 12, No. 5, pp. 639-643. <https://doi.org/10.18280/ijssse.120513>.
- [9]. Rout, Ajit Kumar, **Abhisek Sethy**, M. Ram Kumar, Md Fasi Ahamed, and S. Mohan. "Text Summarization Adaptive Models for Semantic Relevance Information: A Survey." *Specialusis Ugdymas* 1, no. 43 (2022): 10836-10844.
- [10]. **Abhisek Sethy**, Dr. Ajit Kumar Raut, "Employee Attrition Rate Prediction Using Machine Learning Approach", *Turkish Journal of Physiotherapy and Rehabilitation*; 32(3) ISSN 2651-4451 | e-ISSN 2651 446X
- [11]. Dr. Ajit Kumar Raut, **Abhisek Sethy**, "Self-Adaptive Social Spider Algorithm optimization for Solving Travelling Salesman Problem", *Turkish Online Journal of Qualitative Inquiry (TOJQI)* Volume 12, Issue 7, July 2021:3577-3588.
- [12]. Nagaraju, V., **Abhisek Sethy**, Raja Sarath Kumar Boddu, S. Balambigai, and K. Sakthisudhan. "Diagnosed image of breast cancer by antenna MVDR beam forming algorithm with composites." *Materials Today: Proceedings* (2021).
- [13]. **Sethy, A.** and Patra, P.K., 2021, March. Discrete Cosine Transformation Based Approach for Offline Handwritten Character and Numeral Recognition. In *Journal of Physics: Conference Series* (Vol. 1770, No.1). IOP

Publishing.

- [14]. **A. Sethy** and P.K Patra" Off-lineOdiaHandwrittenCharacters Recognition: An Axis Constellation Model Based Approach " International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8, Issue- 9S2, July 2019.
- [15]. **A Sethy** and P. K Patra, "Optical Character Recognition of Odia Handwritten Scripts and Numerals: A Survey on Web Based Utility Application", Journal of Web Engineering (SCI), Vol. 17, No.6 (2018) 3629 – 3653.
- [16]. **A Sethy**, P. K Patra and Deepak Ranjan Nayak, "Gray-Level Co-occurrence Matrix and Random Forest Based Off-line Odia Handwritten Character Recognition", Recent Patents on Engineering (Scopus) (2018)12: 1. <https://doi.org/10.2174/1872212112666180601085544>.
- [17]. **A Sethy**, P.K Patra, D. R. Nayak, and S. R. Nayak, "A Gabor Wavelet Based Approach for Classification of Handwritten Odia Numerals", International Journal of Engineering & Technology, (Scopus) 7(2.32),253-257,2018.
- [18]. **A. Sethy**, P.K Patra, and S.R Nayak, "Ripplet Transformation Based Off-Line Handwritten Character & Numeral", Journal of AdvResearch in Dynamical & Control Systems, Vol. 10, No. 5, 2018. (Elsevier, Scopus).
- [19].S.R. Nayak, J. Mishra, **A. Sethy** and S. K. Mohapatra, "A Comparative Analysis on Estimation of Fractal Dimension of Grey Scale Images", International Journal of Pure and Applied Mathematics (Scopus) Volume 117 No. 19 2017, 323-329.

CONFERENCE PAPERS:

- [1]. Rout, Ajit Kumar, **Abhisek Sethy**, and V. Vasudha Rani. "Predicting Disease Risk with Machine Learning: A Comparative Study of Classification Algorithms." 2024 International Conference on Advances in Modern Age Technologies for Health and Engineering Science (AMATHE). IEEE, 2024.
- [2]. Ampavathi, A., Tamilselvi, P., Lingamallu, R. K., **Sethy, A.**, Gogula, S., Sharath, M. N., & Vijayalakshmi, K. (2024). Integrative approach for modern health risk modeling and predicting in patients through artificial intelligence method. In MATEC Web of Conferences (Vol. 392, p. 01144). EDP Sciences.
- [3]. Reddy, K. R., Kumar, T. S., Gogula, S., **Sethy, A.**, Ammisetty, V., Sharath, M. N., ... &Kansal, L. (2024). Harnessing sensor fusion and AI for accurate accident detection and classification in the safety of smart cities. In

MATEC Web of Conferences (Vol. 392, p. 01102). EDP Sciences.

- [4]. Reddy, K. R., Roy, D. K., Murthy, P. S., **Sethy, A.**, Selvam, K., Sharath, M. N., ... & Singh, H. (2024). Effective integration of the internet of things and ensemble learning approaches for enhancing sudden topple recognition assisted by cloud computing technology. In MATEC Web of Conferences (Vol. 392, p. 01104). EDP Sciences.
- [5]. Gogula, S., Sridhar, P., Arvind, S., **Sethy, A.**, Ragavendiran, S. P., Balasubramani, P., & Gupta, K. G. (2024). Optimized resource allocation in cloud computing for enhanced performance with modified particle swarm optimization. In MATEC Web of Conferences (Vol. 392, p. 01140). EDP Sciences.
- [6]. **A. Sethy**, and P.K Patra, "Off-line Odia Handwritten Numeral Recognition Using Neural Network: A Comparative Analysis", IEEE Conference Computing, Communication and Automation (ICCCA), pp.1099-1103, 2016.
- [7]. **A. Sethy**, P.K Patra, P. M Jena, and S. R. Nayak, "Symmetric Axis Based Offline Odia Handwritten Character and Numeral Recognition", IEEE Conference on Computational Intelligence and Networks (CINE), pp. 83-87, 2017.
- [8]. **Abhisek Sethy**, P. K Patra, R. K. Nayak, D. Sahoo, "Transform Based Approach for Handwritten Character and Numeral Recognition: A Comprehensive Approach" ["https://ssrn.com/abstract=3708702"](https://ssrn.com/abstract=3708702). (SSRN-Elsavier).
- [9]. Nayak, R. K., Tripathy, R., Mishra, D., Burugari, V. K., Selvaraj, P., **Sethy, A.**, & Jena, B. (2021). Indian Stock Market Prediction Based on Rough Set and Support Vector Machine Approach. In *Intelligent and Cloud Computing* (pp.345-355). Springer, Singapore.
- [10]. **Sethy, A.**, Patra, P. K., & Nayak, S. R. (2022). A Deep Convolutional Neural Network-Based Approach for Handwritten Recognition System. In *Computational Intelligence in Pattern Recognition* (pp.607-617). Springer, Singapore.
- [11]. Sarangi, P. K., Sahoo, A. K., Nayak, S. R., Agarwal, A., & **Sethy, A.** (2022). Recognition of isolated Handwritten Gurmukhi Numerals Using Hopfield Neural Network. In *Computational Intelligence in Pattern Recognition* (pp. 597-605). Springer, Singapore.
- [12]. A. K. Rout, **A. Shety** and K. Modekurti, "Counterfeit Regulation through

Machine Learning Approach and Deployment in Dockers," 2022 12th International Conference on Cloud Computing, Data Science & Engineering (Confluence), 2022, pp.500-507,doi:10.1109/Confluence52989.2022.9734203.

[13]. **A. Sethy**, A. K. Raut and S. R. Nayak, "Face Recognition Based Automated Recognition System," 2022 12th International Conference on Cloud Computing, Data Science & Engineering (Confluence), 2022, pp.543-547, doi:10.1109/Confluence52989.2022.9734135.

[14]. **Abhisek Sethy**, Chandra Gunda, Sai Pranavi Pothuri, Sai Kiran Routhu, Srinu Kallepalli, Geetha Garbhapu " Book Genre Classification system Using Machine Learning Approach: A Survey" in the 5th International Conference on Sift Computing and Signal Processing Springer (ICSCSP-2022) organized by Malla Reddy College of Engineering and Technology, Hyderabad, India during 24th-25th June 2022.

ANY OTHER

BOOK CHAPTER

[1]. **Sethy, Abhisek**, Shaik, Nazeer, Yadavalli, Pavan Kumar and Anandaraj, S. P.. "9 AI: issues, concerns, and ethical considerations". Toward Artificial General Intelligence: Deep Learning, Neural Networks, Generative AI, edited by Victor Hugo C. de Albuquerque, Pethuru Raj and Satya Prakash Yadav, Berlin, Boston: De Gruyter, 2024, pp. 189-212. <https://doi.org/10.1515/9783111323749-009>.

[2]. **Sethy, Abhisek**, Shaik, Nazeer, Saravanan, V. and Karthika, S.. "10 The future with AI and AI in action". Toward Artificial General Intelligence: Deep Learning, Neural Networks, Generative AI, edited by Victor Hugo C. de Albuquerque, Pethuru Raj and Satya Prakash Yadav, Berlin, Boston: De Gruyter, 2024, pp. 213-232. <https://doi.org/10.1515/9783111323749-010>

[3]. **A. Sethy**, P. K Patra and D. R Nayak, "Off-line Odia Character Recognition using DWT and PCA", In proceeding to Progress in Advanced Computing and Intelligent Engineering, Springer, Singapore, 187-195, 2018.

[4]. **A. Sethy**, P. K Patra and D. R Nayak, "Off-line Odia Handwritten Characters Recognition: A Hybrid Approach", In proceedings to Computational Signal Processing and Analysis, Springer, Singapore, pp. 247-257, 2018.

- [5]. **A. Sethy** and P. K Patra, "R-HOG Feature Based Off-Line Odia Handwritten Character Recognition",DOI:10.4018/978-1-7998-0066-8.ch010, Examining Fractal Image Processing and Analysis, IGI GLOBAL,2019.
- [6]. **Abhisek Sethy**, P.K Patra, S. R Nayak, "Offline Handwritten Numeral Recognition Using Convolution Neural Network" Machine Vision Inspection Systems: Image Processing, Concepts, Methodologies and Applications, Wiley.<https://doi.org/10.1002/9781119682042.ch9>.

PATENT

- [1]. Patent Title : **Design of an Real Time Smart Health Care System Through Data Mining.**
Patentee Names: Dr. Dinesh Kumar, Dr. P. Eswaran, Dr. D. Daniel, Dr. Satyadhyan Chickerur, **Abhisek Sethy**
Patent Application Number: 201941041826
Date of Publication: 25/10/2019
- [2]. Patent Title: **Motivational Recommendation System And Method**
Patentee Names: Dinesh Kumar Anguraj, Deepak V, R. S. Raghav, **Abhisek Sethy**, Kalaipriyan Thirugnanasambandam
Patent Application Number: 201941041826
Date of Publication: 20/03/2020
- [3]. Patent Title: **Breast Cancer Prediction System And Method For Early detection**
Patentee Names : Dr. Shahina Parveen M, Syed Thouheed Ahmed, Dr. S. Sreedhar Kumar, M. Ramkumar, **Mr. Abhisek Sethy**, Mr. S. S. Aravinth, Dr. M. Rameshkumar
Patent Application Number: 202041021242
Date of Publication: 05/06/2020
- [4]. Patent Title: **An Artificial Intelligence Based System For Detection Of Covid Influence On Human Skin**
Patentee Names : Arjunagi, Shravankumar; Biradar, Siddalingappagouda Dr; Chandnani, Neeraj; G., Pavithra Dr; H, Girish Dr; Jose, Deepa Dr; Malathi, P. Sree Rathna; Madiwal, Shweta M; Manjunath, T.C. Dr; Meena, Mamta Dr; Perugu, Prathusha Dr; Ranjani, R Dr; Sekhar, Ch.Punya Dr; **Sethy, Abhisek**; Sirisha, G.; Urkude, Ashish Manohar Dr; Urkude, Mrs Surekha Ashish
Patent Application Number: 2021102184
Date of Grant : 01-07-2021.
- [5]. Patent Title: **Method for Minimizing the Battery Power Usage in Mobile Ad Hoc Networks**
Patentee Names : A., Asha; Ganesan, Manikandan; Guttula, Ramakrishna; John, Pradeep; K.R, Ishwarya; Mondal, Sanjoy; P.T., Kalaivaani; Sattaru, Naveen Chakravarthy; **Sethy, Abhisek**; T., Subramani
Patent Application Number: 2021102440
Date of Grant: 24/06/2021.
- [6]. Patent Title: **SmartHelmet granted**
Patentee Names : Dr. Srinivas Prasad, Dr. Soumya Ranjan Nayak, Prof. (Dr.) Sunil Kumar Dhal, Dr. Saraju Prasad, Dr. Sudhir Kumar Mohapatra, **Abhisek Sethy**, Jaskirat Kaur, Dr. Manas Ranjan Senapati, A Ambikapathy, Yogesh Kumar, Brijesh Kumar
Patent Application Number: 353451-001
Date of Publication: 07/01/2022
- [7]. Patent Title : **A System With Deep Learning And Internet Of Things-**

Based Investigation And Evaluation Of Algorithms For Analyzing Athletic Health Records.

Patentee Names :**Dr. Abhisek Sethy**, Dr. RavuKumarPoluru, Dr.Vijendra Pratap Singh, Mr. Ambui Kumar Misra, Ms.Nandita Manavar, Mr. SYuvraj, Mr.Kothapalli Ramesh Chandra, Dr. Sanjeev Kumar, Ms. Thilagavathi T, Mr. Anil Kumar Gona.
Patent Application No :202331003466
Date of Publication:20.01.2023.

- [8]. Design Patent Title: **AI Based Device For Infusion Of Cancer Vaccine**
Applicant Name : Dr. D. Nagaraju, **Dr. Abhisek Sethy**, Dr. V. Porkodi, J. Rajyalakshmi, Dr. K. Maithili.
Date of Grant : 05/12/2023