

Dr. SUBHAYU GHOSH

Assistant Professor (Guest Faculty), Department of CSE, IIIT Bhagalpur

Ph.D. (CSE), NIT Durgapur

B.Tech (CSE), NIT Durgapur

Mob: (+91)-7076539377, (+91)-6295892925

Mail: subhayu.ghosh17@gmail.com

Website: <https://sites.google.com/view/subhayughosh/home>



Research Interests:

- Audio and Speech Processing
- Biomedical Image Processing
- Multi-modal AI
- Generative AI
- Explainable AI
- Machine Learning and Deep Learning

Educational Qualifications:

Ph.D.:

Department: Computer Science and Engineering

Institute: National Institute of Technology Durgapur, India

Thesis Title: Generative Artificial Intelligence Based Audio-Visual Speech Synthesis: Some Advanced Approaches

Supervisor Name: Dr. Nanda Dulal Jana

Ph.D. Thesis Defended on: 23 March, 2026

B.Tech:

Department: Computer Science and Engineering

Institute: National Institute of Technology Durgapur, India

Project Title: Regional Speaker Identification Using Convolutional Neural Network

Grade: First Class

Higher Secondary:

Board: West Bengal Council of Higher Secondary Examination

School: Burdwan Municipal High School

Percentage (in %): 91.6 [458 out of 500]

Secondary:

Board: West Bengal Board of Secondary Examination

School: Burdwan Municipal High School

Percentage (in %): 94.0 [658 out of 700]

Experiences:

- **Assistant Professor (Guest Faculty):** Department of Computer Science and Engineering, Indian Institute of Information Technology Bhagalpur, India [13.04.2026 - Present]
- **Teaching Assistance (TA):** Department of Computer Science and Engineering, National Institute of Technology Durgapur, India [17.08.2022 - 23.03.2026]

Research:

Total No. of Accepted Papers: 30

- **Accepted Journal Papers (SCI/SCIE/ESCI/SCOPUS): 11**
- **Accepted International Conference Papers: 19**

Cumulative Impact Factors of Accepted Journals (2024): **35.9**

Total Google Scholar Citations: **181**

Technical Skills:

Machine Learning, Deep Learning, Optimization Techniques, Data Structure, Socket Programming, Object Oriented Programming in C++, Python Programming, C programming.

Achievements:

- Travel Grant Recipient from IEEE Signal Processing Society (SPS) for 50th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP-2025).
- Travel Grant Recipient from ACM India for 8th ACM International Conference on Data Science and Management of Data (CODS-COMAD-2024).
- Travel Grant Recipient from IEEE Computational Intelligence Society (CIS) for World Congress on Computational Intelligence (WCCI-2024).
- Best Student Paper Award Winner in 12th IKDD CODS and 30th COMAD (CODS-COMAD-2024).
- Technical Program Committee (TPC) Reviewer in IEEE 42nd International Joint Conference on Neural Networks (IJCNN-2024).
- Reviewer for Various International Conferences and Journals.
- Invited Distinguished Speaker for Various International Conferences and Workshops.
- Qualified Graduate Aptitude Test in Engineering (GATE) Examination.
- Former Senior Scholar of Jagadish Bose National Science Talent Search (JBNSTS).

Courses and Workshops:

- Machine Learning for Cryptography (ML4Crypto-2022): Indian Statistical Institute, Kolkata, India.
- Second Winter School for Deep Learning (WSDL-2023): Indian Statistical Institute, Kolkata, India.

Additional Activities:

- Student Member of IEEE.
- Member of IEEE Signal Processing Society (SPS) and Computational Intelligence Society (CIS).
- Active Member of Soft Computing and Machine Learning (SCML) Group.

Academic Profiles:

- LinkedIn: <https://www.linkedin.com/in/subhayu-ghosh-433964200/>
- Google Scholar: <https://scholar.google.com/citations?user=KKXnA18AAAAJ&hl=en>
- Research Gate: <https://www.researchgate.net/profile/Subhayu-Ghosh>
- GitHub: <https://github.com/Subhayu-ghosh>
- Orcid: <https://orcid.org/0009-0005-2538-6768>

Publication Details:

SCI/SCIE/ESCI/SCOPUS JOURNALS:

1. Subhayu Ghosh, Frank Zalkow and Nanda Dulal Jana, "Enhanced Audio-Visual Speech Synthesis via Multi-Discriminative Learning", in **IEEE Transactions on Multimedia** (Indexing: SCIE, Impact Factor: 9.7). (Link: <https://ieeexplore.ieee.org/document/11304174>) (Related to PhD Thesis)
2. Subhayu Ghosh, Snehashis Sarkar, Sovan Ghosh, Frank Zalkow and Nanda Dulal Jana, "Audio-Visual Speech Synthesis Using Vision Transformer--Enhanced Autoencoders with Ensemble of Loss Functions", in **Applied Intelligence** (Indexing: SCIE, Impact Factor: 3.5). (Link: <https://link.springer.com/article/10.1007/s10489-024-05380-7>) (Related to PhD Thesis)

3. **Subhayu Ghosh**, Nanda Dulal Jana, Tapas Si, Saurav Mallik and Mohd Asif Shah, "CCLCap-AE-AVSS: Cycle Consistency Loss based Capsule Autoencoders for Audio-Visual Speech Synthesis", in **Journal of Intelligent Systems** (Indexing: ESCI, Impact Factor: 2.0).
(Link: <https://www.degruyter.com/document/doi/10.1515/jisys-2023-0171/html>) (Related to PhD Thesis)
4. **Subhayu Ghosh**, Sandipan Dhar, Raktim Yoddha, Shivam Kumar, Abhinav Kumar Thakur and Nanda Dulal Jana, "Melanoma Skin Cancer Detection Using Ensemble of Machine Learning Models Considering Deep Feature Embeddings", in **Procedia Computer Science, Elsevier** (Indexing: Scopus).
(Link: <https://www.sciencedirect.com/science/article/pii/S1877050924009633>)
5. Debtanu Ghosh, **Subhayu Ghosh**, Nanda Dulal Jana, Suparna Biswas and Rammohan Mallipeddi, " Designing Optimal Vision Transformer Architecture Using Differential Evolution for Tomato Leaf Disease Classification", in **Computers and Electronics in Agriculture** (Indexing: SCIE, Impact Factor: 8.9).
(Link: <https://www.sciencedirect.com/science/article/pii/S0168169925009305>)
6. Debtanu Ghosh, **Subhayu Ghosh**, Nanda Dulal Jana, and Rammohan Mallipeddi, "Intelligent Neural Architecture Search via Taguchi Design and Language Model-Based Differential Evolution for Agricultural Image Recognition", in **Expert Systems with Applications** (Indexing: SCIE, Impact Factor: 7.5).
(Link: <https://www.sciencedirect.com/science/article/pii/S0957417426000497>)
7. Sayantani Mandal, **Subhayu Ghosh**, Nanda Dulal Jana, Somenath Chakraborty and Saurav Mallik, "Active Learning with Particle Swarm Optimization for Enhanced Skin Cancer Classification utilizing Deep CNN Models", in **Journal of Imaging Informatics in Medicine** (Indexing: SCIE).
(Link: <https://link.springer.com/article/10.1007/s10278-024-01327-z>)
8. Sayantan Das, **Subhayu Ghosh** and Nanda Dulal Jana, "TransConv: Convolution Infused Transformer for Protein Secondary Structure Prediction", in **Journal of Molecular Modeling** (Indexing: SCIE, Impact Factor: 2.5). (Link: <https://link.springer.com/article/10.1007/s00894-024-06259-7>)
9. Arjun Ghosh, Nanda Dulal Jana and **Subhayu Ghosh**, "Automated CNN Architecture Design with Enhanced Particle Swarm Optimization", in **Journal of Heuristics** (Indexing: SCIE, Impact Factor: 1.1).
(Link: <https://link.springer.com/article/10.1007/s10732-025-09570-5>)
10. Brahmanand Dubey, Anubhav Dwibedi, **Subhayu Ghosh** and Nanda Dulal Jana, "Spatial Mean-Based Feature Fusion and Ensemble Learning Framework for Enhanced Melanoma Detection", in **International Journal of Information Technology** (Indexing: Scopus).
(Link: <https://link.springer.com/article/10.1007/s41870-025-02841-1>)
11. Rabel Guharoy, Nanda Dulal Jana, Suparna Biswas, **Subhayu Ghosh** and Lalit Garg, "An Optimized Framework for Epileptic Seizure Detection Using DWT-Based Feature Extraction and Hybrid Dimensionality Reduction", in **International Journal on Smart Sensing and Intelligent Systems** (Indexing: ESCI, Impact Factor: 0.4). (Link: <https://tinyurl.com/586p2ahc>)

INTERNATIONAL CONFERENCES:

1. **Subhayu Ghosh**, Swapnil Saha and Nanda Dulal Jana, "KANGAN-AVSS: Kolmogorov-Arnold Network--Based Generative Adversarial Networks for Audio-Visual Speech Synthesis", in **50th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP-2025)**, Hyderabad, India.
(Link: <https://ieeexplore.ieee.org/abstract/document/10890863>) (Related to PhD Thesis)

2. **Subhayu Ghosh**, Swapnil Saha and Nanda Dulal Jana, "SwinGAN-AVSS: Audio-Visual Speech Synthesis Leveraging Swin Transformer--Enhanced Generative Adversarial Networks", in **50th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP-2025)**, Hyderabad, India.
(Link: <https://ieeexplore.ieee.org/abstract/document/10889250>) (Related to PhD Thesis)
3. **Subhayu Ghosh** and Nanda Dulal Jana, "Audio-Visual Speech Synthesis Leveraging Capsule Enhanced Generative Adversarial Network", in **8th ACM International Conference on Data Science and Management of Data [12th IKDD CODS and 30th COMAD] (CODS-COMAD-2024)**, Jodhpur, India.
(Link: <https://dl.acm.org/doi/10.1145/3703323.3703325>) (Related to PhD Thesis)
4. **Subhayu Ghosh** and Nanda Dulal Jana, "GNNAE-AVSS: Graph Neural Network Based Autoencoders for Audio-Visual Speech Synthesis", in **42nd IEEE International Joint Conference on Neural Networks (IJCNN-2024)** at **10th IEEE World Congress on Computational Intelligence (WCCI-2024)**, Yokohama, Japan. (Link: <https://ieeexplore.ieee.org/abstract/document/10651476>) (Related to PhD Thesis)
5. **Subhayu Ghosh**, Shakti Shankar Karmakar and Nanda Dulal Jana, "Experimental Analysis of K-Nearest Neighbor Algorithm Variants for Disease Classification", in **6th International Conference on Recent Advances in Information Technology (RAIT 2025)**, Dhanbad, India.
(Link: <https://ieeexplore.ieee.org/abstract/document/11089035>)
6. **Subhayu Ghosh**, Sonal Kumari and Nanda Dulal Jana, "Comparative Performance Analysis of Decision Tree Variants in Heart and Lung Disease Classification", in **8th IEEE Kolkata Section Conference (CALCON-2024)**, Kolkata, India. (Link: <https://ieeexplore.ieee.org/document/10914302>)
7. **Subhayu Ghosh**, Riyan Acharya and Nanda Dulal Jana, "An Experimental Analysis of Machine Learning Models for Diabetes Classification", in **7th International Conference on Communication, Devices and Networking (ICCDN-2024)**, Sikkim, India.
(Link: https://link.springer.com/chapter/10.1007/978-981-97-6465-5_11)
8. **Subhayu Ghosh**, Sandipan Dhar and Nanda Dulal Jana, "A Comprehensive Analysis on Features and Performance Evaluation Metrics in Audio-Visual Voice Conversion", in **3rd International Conference on Advanced Network Technologies and Intelligent Computing (ANTIC-2023)**, Banaras, India.
(Link: https://link.springer.com/chapter/10.1007/978-3-031-64070-4_19) (Related to PhD Thesis)
9. Aishe Dutta, **Subhayu Ghosh** and Nanda Dulal Jana, "A Sequential Framework of Graph Neural Networks and Swin Transformers for Alzheimer's Disease Stage Detection from 3D MRI Images", in **9th IEEE International Conference on Information and Communication Technology (ICT-2025)**, Kancheepuram, India.
(Link: <https://ieeexplore.ieee.org/document/11399018>)
10. Avisha Sarkar, **Subhayu Ghosh**, and Nanda Dulal Jana, "Kolmogorov–Arnold Networks for Robust Multivariate Forecasting of Indian Stock Indices", in **9th IEEE International Conference on Information and Communication Technology (ICT-2025)**, Kancheepuram, India.
(Link: <https://ieeexplore.ieee.org/document/11399203>)
11. Kartikey Raj, **Subhayu Ghosh**, Arjun Ghosh and Nanda Dulal Jana, "Lesion-Aware ConvNeXtV2 with Hybrid Pooling for Diabetic Retinopathy Detection", in **9th IEEE International Conference on Information and Communication Technology (ICT-2025)**, Kancheepuram, India.
(Link: <https://ieeexplore.ieee.org/document/11399183>)

12. Vastav Tailwal, **Subhayu Ghosh**, Arjun Ghosh, Brahmanand Dubey and Nanda Dulal Jana, "Speech-Based Efficient Parkinson's Disease Detection Using Hybrid Deep Learning Model", in **9th IEEE International Conference on Information and Communication Technology (CICT-2025)**, Kancheepuram, India.
(Link: <https://ieeexplore.ieee.org/document/11399028>)
13. Brahmanand Dubey, Anubhav Dwivedi, **Subhayu Ghosh** and Nanda Dulal Jana, "Energy-Guided Gabor Texture Descriptors for Fusion-Based Multimodal Colon Cancer Detection", in **9th IEEE International Conference on Information and Communication Technology (CICT-2025)**, Kancheepuram, India.
(Link: <https://ieeexplore.ieee.org/document/11399196>)
14. Brahmanand Dubey, **Subhayu Ghosh**, Jishnu Raj and Nanda Dulal Jana, "Colon Polyp Detection and Segmentation with YOLOv8 and Attention-Augmented U-Net Model", in **11th International Conference on Pattern Recognition and Machine Intelligence (PReMI-2025)**, Delhi, India. [Accepted]
15. Saikat Samanta, **Subhayu Ghosh**, Brahmanand Dubey and Nanda Dulal Jana, " ViT-GA-AVSS: Optimizing Vision Transformer-Based Audio-Visual Speech Synthesis Approach Using Genetic Algorithm", in **5th International Conference on Advanced Computational and Communication Paradigms (ICACCP-2025)**, Sikkim, India. (Link: https://link.springer.com/chapter/10.1007/978-3-032-13544-5_29)
16. Arkapravo Nandi, **Subhayu Ghosh**, Md. Tousin Akhter, Sandipan Dhar and Nanda Dulal Jana, "Correlations of Evaluation Metrics for Voice Conversion: An Experimental Analysis", in **15th IEEE International Conference on Computing, Communication and Networking Technologies (ICCCNT-2024)**, Mandi, India.
(Link: <https://ieeexplore.ieee.org/document/10725801>)
17. Md. Tousin Akhter, Padmanabha Banerjee, Sandipan Dhar, **Subhayu Ghosh** and Nanda Dulal Jana, "Region Normalized Capsule Network Based Generative Adversarial Network for Non-Parallel Voice Conversion", in **25th International Conference on Speech and Computer (SPECOM-2023)**, Dharwad, India.
(Link: https://link.springer.com/chapter/10.1007/978-3-031-48309-7_20)
18. Nanda Dulal Jana, Sandipan Dhar, **Subhayu Ghosh**, Sukonya Phukan, Rajlakshmi Gogoi and Jyoti Singh, "An Ensemble of Machine Learning Models Utilizing Deep Convolutional Features for Medical Image Classification", in **3rd International Conference on Advanced Network Technologies and Intelligent Computing (ANTIC-2023)**, Banaras, India.
(Link: https://link.springer.com/chapter/10.1007/978-3-031-48309-7_20)
19. Avirup Mazumder, **Subhayu Ghosh**, Swarup Roy, Sandipan Dhar, and Nanda Dulal Jana, "Rectified Adam Optimizer-Based CNN Model for Speaker Identification", in **4th International Conference on Intelligent Computing and Advances in Communication (ICAC-2021)**, Bhubaneswar, India.
(Link: https://link.springer.com/chapter/10.1007/978-981-19-0825-5_16)

Declaration:

I hereby declare that the above information is true and correct to the best of my knowledge and belief. I understand that any misrepresentation may lead to the rejection of my application.

Date: 13/04/2026

Place: Bhagalpur, India.

