Vishwanath Bijalwan, Post-Doc,Ph.D.

✉ vishwanathbijalwan@ieee.org
G Google Scholar
R⁶ ResearchGate
iD ORCID
🔗 DBLP
🔗 Scopus
🔗 Web of Science
in LinkedIn
▶ YouTube
👥 Postdoctoral Lab, South Korea
🌐 DAAD AI-NET Fellow 04/2024
🏠 Homepage

Objective

To contribute in the community of Artificial Intelligence, specializing in Machine Learning, Deep Learning, Generative AI and NLP, with a focus on advancing Human-Robot Interaction and physiological signal processing.

Research Area

Computer Vision, NLP, Human Gait, Soft Robotics, SMA Actuators, Wearable Sensors

Employment History

21 July 2025 Onwards	**Associate professor, Amity University(NIRF Rank 32), Mohali, Punjab India** Teaching undergraduate and postgraduate courses in Artificial Intelligence.
14 November 2023 to 15 July 2025	**Assistant professor, SR University (NIRF Rank 98 and NBA accredited University), Warangal, Telangana, India** Teaching undergraduate and postgraduate courses in Artificial Intelligence.
May 2025	**Visiting Professor – Collaborative Global Classroom Teaching (CGCT) Program**, Universiti Teknologi MARA (UiTM), Malaysia & SR University, India. Delivered invited lectures for the postgraduate course ESE614—Intelligent Control Systems under Model 2 (Delivery Collaboration). Contributing as part of an international academic partnership between UiTM and SR University.
01 October 2022 to 31 October 2023	**Post-Doctoral Fellow**,Intelligent Control and Robotics Lab (ICRS), **Hanbat National University(HBNU) Daejeon, South Korea**.
03 October 2013 – 23 September 2022	**Assistant professor. Institute of Technology Gopeshwar (A State Government Institute affiliated with Uttarakhand Technical University(UTU) Dehradun, Uttarakhand, India)**.
October 2017 – December 2020	**Project Coordinator, TEQIP-III (Honorary).** Worked as a project coordinator of the Technical Education Quality Improvement Programme-III (A World Bank project driven by the Government of India, NPIU, MHRD) at the Institute of Technology Gopeshwar, Chamoli, Uttarakhand, I have been responsible for the development of the Institute through a number of assigned activities, which include the purchase of equipment, training (faculty and students), conferences, workshops, startup funding, accounting management, and overall responsibility for project coordination.
February 2013 – September 2013	**Assistant professor.** Department of Electronics and Communication Engineering, Uttaranchal Institute of Technology, Dehradun (now Uttaranchal University), Uttarakhand, India).

Employment History (continued)

February 2010 – August 2010   **Network Field Engineer,HCL Infosystems Limited.** Worked on the Uttarakhand state-wide area network (UKSWAN) government of India project. The UKSWAN project was a networking project of the central government in which all district headquarters, tehsils, and block offices are connected with advanced networking with an optical fiber lease line. I worked there as a network engineer and managed the connection and routing of the routers. I also worked on switches, hubs, and firewalls. I deal with Cisco and Juniper routers.

Education

October 2017 – April 2022   **Ph.D., ICFAI University, Dehradun,** Electronics and Communication Engineering (Human Gait, Activity Recognition, Biomedical Signal Processing, Robotics, Deep Learning).
Thesis title: *Development of a Computational Model for Gait-Based Activities, Pattern Analysis, and Push Recovery Stability of Bipedal Locomotion.*

2012   **M.Tech.(Honours)**, Dehradun Institute of Technology (Uttarakhand Technical University), Dehradun, Uttarakhand, India in Digital Communication (IEEE 802.15.4)
Thesis title: *Analysis & Design of Joint PHY-MAC Layer for IEEE 802.15.4 Network*.

2010   **B.Tech. ECE NBA Accredited Branch (1st(Division)**, Dehradun Institute of Technology (Pradesh Technical University, Lucknow, India

2005   **B.Sc. (Physics, Chemistry, Mathematics) up Upto IInd Year**, DAV College Dehradun, HNBGU, Srinagar (Central University).

2003   **XII (PCM) Intermediate (Ist Div 61%)**, Government Intermediate College, Purola, UK State Board Ramnagar, Uttarakhand.
01 Distinction in Physics.

2001   **X (High School—1st Div 68.85%)**, Government Intermediate College, Purola, UP State Board Allahabad.
03 Distinctions in Math, Science, and Hindi.

Notable Professional Offers/Recognition

Lecturer & Researcher Offer - Jul 02, 2025   **Duy Tan University, Vietnam (QS World University Ranking 2025: 495)**. Offered position as a Researcher and Lecturer.

DAAD Postdoc-NeT-AI Award (Germany) 2024   I was selected as a DAAD AInet fellow for the Postdoc-NeT-AI 04/2024 Networking Week on AI Safety and Security. I visited the Machine Learning and Data Analytics (MAD) lab at FAU Erlangen-Nuremberg to discuss potential research collaborations with Prof. Bjoern Eskofier and Prof. Anne Koelewijn. I established connections with researchers from various fields, conducting research on advanced sensors and reinforcement learning. I traveled to Munich, Bamberg, and Erlangen, where I had the opportunity to interact with scientists from Siemens and TUV Rheinland.

Postdoc Offer - Oct 04, 2023   Brain AI Lab, Monthly package of more than 03 Million KRW monthly, under Prof. Sangtae Ahn, School of Electronics Engineering, Kyungpook National University (Top Qs 500 ranking Institute), Daegu, South Korea.

Postdoc Offer - Sep 02, 2023   Real-Time AI Systems Engineering Lab (RAISE) of 52 Million KRW Annual Package, under Prof. Hyeongboo Baek, Department of Computer Science, Incheon National University, Incheon, South Korea.

Notable Professional Offers/Recognition (continued)

Postdoc Offer - Aug 25, 2022   🔖 Dr. Sachin Kumar, Leading Scientist, Big Data and Machine Learning Research Lab, South Ural State University, Chelyabinsk, Russia.

Projects Completed/Applied

2019   🔖 **A preliminary Approach to gait recognition and Biomechanics of gait analysis, Principal Investigator, TEQIP-III, Uttarakhand Technical University Dehradun, Competitive Research Grant of INR 200000/-, status: completed**
Wireless Energy Harvesting Device for Intelligence Transporting System (ITS), Co-Principal Investigator TEQIP-III, Uttarakhand Technical University Dehradun, Competitive Research Grant of INR 200000/-, status: completed

2024   🔖 **Real-Time Neuroadaptive Rehabilitation System for Gait and Posture Correction in Post-stroke Patients, Applied in ECG ANRF, File No. 502024002882,Status: Applied**

🔖 **Explainable AI for Detection and Classification of Calcifications in Digital Breast Tomosynthesis Images Using a Novel Deep Learning Algorithms, File No: CRD/2024/000849, ASEAN-India Collaborative R&D, Grant of 30 Lakh INR, Status: Applied**

🔖 **AI Enabled Early Gait Disorder Detection Using Wearable SMA Prosthetics, Principal Investigator: Dr. Vishwanath Bijalwan, Co-Investigators: Dr. Vijay Bhaskar Semwal, MANIT Bhopal under SERB SURE program, Grant of 30 Lakh INR, Status: Applied**

Research Outreach

Citations	🔖 1316(Google Scholar), 797(Scopus) 467(WOS) .
h- Index	🔖 13(Google Scholar), 10 Scopus, 08 Web of Science,
i-10 Index	🔖 15
Sci-Indexed Journals	🔖 23(Till date), 03 (Submitted & Under Review), Scopus 35, Q1 Journals 11
Total Publications	🔖 88

International MoU's Done

2025   🔖 **Memorandum of Understanding with Universiti Teknologi MARA (UiTM), Malaysia**
Description: Successfully discussed and finalized the MoU between SR University and UiTM with Prof. Dr. Ts. Ir. Dr. Siti Noraini Sulaiman, Deputy Rector, Academic and International Affairs, UiTM, as the designated coordinator from UiTM. The partnership aims to foster collaborative research, faculty and student exchanges, and innovative academic initiatives. Status: Successfully Completed

🔖 **Memorandum of Understanding with Phenikaa University, Hanoi, Vietnam**
Description: Successfully discussed and finalized the MoU between SR University and Phenikaa University, Hanoi, Vietnam, with Prof. Tran Duc Tan, Vice Dean, as the designated coordinator from Phenikaa University. This partnership is designed to encourage joint research projects, academic collaboration, and knowledge exchange. Status: Successfully Completed

Ph.D. Scholars Under Guidance

From Novmeber 2024 onwards   🔖 **Karuna**
Sri

Research Area: Computer Vision/AI Technology in Agriculture.

Ph.D. Scholars Under Guidance (continued)

Status: Ongoing

From Feb 2024 onwards

🔖 **Sriramoju Archana**

Research Area: Computer Vision/ Healthcare Orthodontics

Status: Ongoing

🔖 **Swaroopa Rani Kothuri**

Research Area: Computer Vision / Human Activity Recognition

Status: Ongoing

🔖 **Jyoshnadevi Kusumba**

Research Area: Computer Vision / UAV Pathplanning

Status: Ongoing

Research Publications

Journal Articles

1. G. Karunasri *et al.*, "Benchmarking deep learning models for optimal eurosat classification,"

2. A. K. Dwivedi, V. Bijalwan, R. K. Mishra, and R. Ranjan, "A systematic and analytical review on drowsiness detection system-based real-time application," *Leveraging Artificial Intelligence in Cloud, Edge, Fog and Mobile Computing,* pp. 286–302, 2025.

3. G. Karunasri, S. Martha, and V. Bijalwan, "Hybrid convnext-liquid neural network for satellite image classification: A benchmark on eurosat dataset," *IEEE Transactions on Geoscience and Remote Sensing,* 2025.

4. S. Mishra, P. T. Vi, S. Mishra, V. Bijalwan, V. B. Semwal, and A. M. Khan, "Saferl-lite: A lightweight, explainable, and constrained reinforcement learning library," *arXiv preprint arXiv:2506.17297,* 2025.

5. V. Vellaiyan, M. Jeong, Y. Kim, *et al.*, "Design of pre-trained shape memory alloy actuators for finger rehabilitation," *Sensors and Actuators A: Physical,* p. 116 838, 2025.

6. V. Bijalwan *et al.*, "Eeg-based motion intention detection for robotic rehabilitation: Evaluating classification and regression algorithms," *SN Computer Science,* 2024. 🔗 DOI: 10.1007/s42979-024-03419-7.

7. V. Bijalwan, A. M. Khan, H. Baek, S. Jeon, and Y. Kim, "Interpretable human activity recognition with temporal convolutional networks and model-agnostic explanations," *IEEE Sensors Journal,* pp. 1–1, 2024, **Q1 Scopus Indexed**. 🔗 DOI: 10.1109/JSEN.2024.3418496.

8. A. M. Khan, V. Bijalwan, H. Baek, B. Shin, and Y. Kim, "Dynamic high-gain observer approach with sliding mode control for an arc-shaped shape memory alloy compliant actuator," *Microsystem Technologies,* pp. 1–8, 2024.

9. A. M. Khan, V. Bijalwan, B. Shin, and Y. Kim, "Adaptive neural network controller for the rotating sma actuator," *Sensors and Actuators A: Physical,* p. 115 240, 2024, ISSN: 0924-4247. 🔗 DOI: https://doi.org/10.1016/j.sna.2024.115240.

10. V. Vellaiyan, V. R, V. Bijalwan, and Y. Singh, "Structural optimization and parameter investigation of trapezoidal shape soft pneumatic actuator," *Engineering Research Express,* vol. 6, no. 4, p. 045 510, 2024. 🔗 DOI: 10.1088/2631-8695/ad80f9.

11. H. Baek, A. M. Khan, V. Bijalwan, S. Jeon, and Y. Kim, "Dexterous robotic hand based on rotational shape memory alloy actuator-joints," *IEEE Transactions on Medical Robotics and Bionics,* vol. 5, no. 4, pp. 1082–1092, 2023, **Q1 Scopus Indexed**. 🔗 DOI: 10.1109/TMRB.2023.3315783.

12. H. Baek, N. A. Mansour, A. M. Khan, V. Bijalwan, H. F. Ali, and Y. Kim, "Sma-based caterpillar robot using antagonistic actuation," *Microsystem Technologies,* pp. 1–15, 2023.

13. V. Bijalwan, V. B. Semwal, G. Singh, and T. K. Mandal, "Hdl-psr: Modelling spatio-temporal features using hybrid deep learning approach for post-stroke rehabilitation," *Neural Processing Letters,* vol. 55, no. 1, pp. 279–298, 2023.

14. A. M. Khan, V. Bijalwan, H. Baek, B. Shin, and Y. Kim, "Integral sliding mode control (ismc) with an extended state observer (eso) for an arc-shaped shape memory alloy actuator," *Microsystem Technologies*, Aug. 2023, ISSN: 1432-1858. 🔗 DOI: 10.1007/s00542-023-05516-8.

15. A. M. Khan, V. Bijalwan, B. Shin, and Y. Kim, "Adaptive neural network control design and analysis for sma actuators having dominant shape memory effect," 2023.

16. V. B. Semwal, Y. Kim, V. Bijalwan, *et al.*, "Development of the lstm model and universal polynomial equation for all the sub-phases of human gait," *IEEE Sensors Journal*, vol. 23, no. 14, pp. 15 892–15 900, 2023, **Q1 Scopus Indexed**. 🔗 DOI: 10.1109/JSEN.2023.3281401.

17. V. Bijalwan, V. B. Semwal, and V. Gupta, "Wearable sensor-based pattern mining for human activity recognition: Deep learning approach," *Industrial Robot: the international journal of robotics research and application*, vol. 49, no. 1, pp. 21–33, 2022.

18. V. Bijalwan, V. B. Semwal, G. Singh, and R. G. Crespo, "Heterogeneous computing model for post-injury walking pattern restoration and postural stability rehabilitation exercise recognition," *Expert Systems*, vol. 39, no. 6, e12706, 2022.

19. V. B. Semwal, N. Gaud, P. Lalwani, V. Bijalwan, and A. K. Alok, "Pattern identification of different human joints for different human walking styles using inertial measurement unit (imu) sensor," *Artificial Intelligence Review*, vol. 55, no. 2, pp. 1149–1169, 2022, **Q1 Scopus Indexed**.

20. V. Bijalwan, V. B. Semwal, and T. K. Mandal, "Fusion of multi-sensor-based biomechanical gait analysis using vision and wearable sensor," *IEEE Sensors Journal*, vol. 21, no. 13, pp. 14 213–14 220, 2021, **Q1 Scopus Indexed**. 🔗 DOI: 10.1109/JSEN.2021.3066473.

21. V. B. Semwal, P. Lalwani, M. K. Mishra, V. Bijalwan, and J. S. Chadha, "An optimized feature selection using bio-geography optimization technique for human walking activities recognition," *Computing*, vol. 103, no. 12, pp. 2893–2914, 2021, **Q1 Scopus Indexed**.

22. P. Bagwari, B. Saxena, M. Balodhi, and V. Bijalwan, "Comparison of feedforward network and radial basis function to detect leukemia," *International Journal of Interactive Multimedia and Artificial Intelligence*, vol. 4, no. 5, p. 55, 2017, **Q1 Scopus Indexed**. 🔗 DOI: 10.9781/ijimai.2017.4510.

23. V. Mehta, D. Punetha, and V. Bijalwan, "A real time approach to theft prevention in the field of transportation system," 2016.

24. V. Bijalwan, M. Balodhi, and A. Gusain, "Human emotion recognition using thermal image processing and eigenfaces," *International Journal of Enginnering and Science Research*, vol. 1, pp. 34–40, 2015.

25. V. Bijalwan *et al.*, "Machine learning approach for text and document mining." arxiv preprint," *arXiv preprint arXiv:1406.1580*, 2014.

26. V. Bijalwan, V. Kumar, P. Kumari, and J. Pascual, "Knn based machine learning approach for text and document mining," *International Journal of Database Theory and Application*, vol. 7, no. 1, pp. 61–70, 2014.

27. V. Bijalwan, P. Kumari, J. P. Espada, and V. B. Semwal, "Machine learning approach for text and document mining," *CoRR*, vol. abs/1406.1580, 2014. arXiv: 1406.1580. 🔗 URL: http://arxiv.org/abs/1406.1580.

28. M. Sati, V. Vikash, V. Bijalwan, *et al.*, "A fault-tolerant mobile computing model based on scalable replica," *IJIMAI*, vol. 2, no. 6, pp. 58–68, 2014, **Q1 Scopus Indexed**.

Conference Proceedings

1. S. Archana and V. Bijalwan, "Panoramic revolutionizing orthodontic analysis with deep learning and panoramic dental x-rays," in *2025 International Conference on Advances in Modern Age Technologies for Health and Engineering Science (AMATHE)*, IEEE, 2025, pp. 1–7.

2. G. Karunasri, S. Martha, and V. Bijalwan, "Exploring modern deep learning architectures for satellite image analysis: A eurosat perspective," in *2025 7th International Conference on Signal Processing, Computing and Control (ISPCC)*, IEEE, 2025, pp. 431–436.

3. G. Karunasri, S. Martha, and V. Bijalwan, "Scalable land cover classification with linear kernel svm on sentinel-2 imagery via gee: A case study," in *2025 7th International Conference on Signal Processing, Computing and Control (ISPCC)*, IEEE, 2025, pp. 8–14.

4. B. V. Kumari and V. Bijalwan, "An overview of integrative approaches combining ade and lasso for feature selection in ovarian cancer detection," in *2025 International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC)*, IEEE, 2025, pp. 1–8.

5. T. V. Phung, S. Mishra, V. Bijalwan, T. Duc-Tan, and S. Mishra, "Context-controlled question generation for adaptive learning," in *2025 International Conference on Electronics, AI and Computing (EAIC)*, IEEE, 2025, pp. 1–6.

6. K. Sahithya and V. Bijalwan, "Privacy preserving in federated learning with transformer models," in *2025 4th International Conference on Distributed Computing and Electrical Circuits and Electronics (ICDCECE)*, IEEE, 2025, pp. 1–7.

7. K. Swetha and V. Bijalwan, "Early detection of heart attacks: Unraveling mechanisms and enhancing accuracy through tuned machine learning and optimized ann algorithms," in *2025 International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC)*, IEEE, 2025, pp. 1–9.

8. H. Baek, A. M. Khan, V. Bijalwan, S. Jeon, M. Jeong, and Y. Kim, "Tensegrity-inspired multi-axis positioning sma actuator," in *2023 IEEE International Symposium on Robotic and Sensors Environments (ROSE)*, 2023, pp. 1–5. DOI: 10.1109/ROSE60297.2023.10410742.

9. H. Baek, A. M. Khan, V. Bijalwan, and Y. Kim, "Shape Memory Alloy Based Soft Gripper," ser. Information Storage and Processing Systems, vol. ASME 2023 32nd Conference on Information Storage and Processing Systems, Aug. 2023, V001T07A001. DOI: 10.1115/ISPS2023-109566. eprint: https://asmedigitalcollection.asme.org/ISPS/proceedings-pdf/ISPS2023/87219/V001T07A001/7047215/v001t07a001-isps2023-109566.pdf.

10. S. Jeon, V. Bijalwan, and Y. Kim, "Design of an sma-based flat actuator with a pattern inspired by amphibian lungs," in *2023 IEEE International Symposium on Robotic and Sensors Environments (ROSE)*, 2023, pp. 1–6. DOI: 10.1109/ROSE60297.2023.10410670.

11. G. K. Malik, A. Nainwal, Amrish, V. Bijalwan, and V. B. Semwal, "Arm fracture detection using deep convolution neural network," in *Recent Advances in Materials and Manufacturing Technology*, R. K. Nayak, M. K. Pradhan, A. Mandal, and J. P. Davim, Eds., Singapore: Springer Nature Singapore, 2023, pp. 203–212, ISBN: 978-981-99-2921-4.

12. M. K. Sain, J. Singha, and V. Bijalwan, "Dynamic hand gesture recognition using myolo-csrt and hgcnn for human–machine interaction," in *Machine Intelligence Techniques for Data Analysis and Signal Processing*, D. S. Sisodia, L. Garg, R. B. Pachori, and M. Tanveer, Eds., Singapore: Springer Nature Singapore, 2023, pp. 631–642, ISBN: 978-981-99-0085-5.

13. A. S. Bahuguna, K. Kumar, Y. P. Pundir, Alaknanda, and V. Bijalwan, "A review of various digital modulation schemes used in wireless communications," Springer, 2021, pp. 561–570.

14. B. T. Hung, V. B. Semwal, N. Gaud, and V. Bijalwan, "Hybrid deep learning approach for aspect detection on reviews," in *Proceedings of Integrated Intelligence Enable Networks and Computing: IIENC 2020*, Springer, 2021, pp. 991–999.

15. B. T. Hung, V. B. Semwal, N. Gaud, and V. Bijalwan, "Violent video detection by pre-trained model and cnn-lstm approach," in *Proceedings of Integrated Intelligence Enable Networks and Computing: IIENC 2020*, Springer, 2021, pp. 979–989.

16. A. John, A. Jiménez, J. P. Espada, V. B. Semwal, and V. Bijalwan, "Analysis of TCP streaming over VANETs," in *Proceedings of the Second International Conference on Research in Intelligent and Computing in Engineering*, **Q1 Scopus Indexed**, IEEE, Jun. 2017. DOI: 10.15439/2017r107.

17. A. Bijalwan and V. Bijalwan, "Examining the crimninology using network forensic," in *8th National Conference USCSTC*, 2013.

Books

1. K. K. S. Mer, V. B. Semwal, V. Bijalwan, and R. G. Crespo, *Proceedings of Integrated Intelligence Enable Networks and Computing: IIENC 2020*. Springer.

2. V. Bijalwan, *Learning to Learn: Reinforcement Learning Explained for Humans*. United Kingdom: Independently Published, 2025, p. 212, Paperback ASIN: B0FMPTNXGC; Kindle ASIN: B0FMNZRRPD, ISBN: 979-8298399968. URL: https://www.amazon.in/Learning-Learn-Reinforcement-Explained-Humans/dp/B0FMPTNXGC.

3   V. S. Bist, A. S. Bahuguna, and V. Bijalwan, *Objective Digital Electronics: MCQ with Answer Key*. Neel Kamal Prakashan, 2025, ISBN: 978-93-49491-29-8. 🔗 URL: https://www.amazon.in/Objective-Digital-Electronics-MCQ-Answer/dp/934949129X/.

4   V. Dakulagi, M. Alagirisamy, and V. Bijalwan, *Julia Programming*. New Delhi, India: Namya Press, 2025, Print Edition, ISBN: 978-9355453112. 🔗 URL: https://www.amazon.in/Julia-programming-Dr-Veerendra-Dakulagi/dp/9355453116/.

5   S. Mishra, *AI Meets Pure Math: Issue# 1: Koopman Operators in NLP: Modeling Semantic Drift & Dynamics with Pure Mathematics*. Satyam Mishra, 2025.

6   S. Mishra, *Mathematics for Robotics: Learn All the Math You Need to Excel in Robotics*. Satyam Mishra, 2025.

7   V. K. Solanki, V. B. Semwal, R. G. Crespo, and V. Bijalwan, Eds., *Proceedings of the Second International Conference on Research in Intelligent and Computing in Engineering (RICE 2017), Gopeshwar, Uttrakhand, India, March 24-26, 2017* (Annals of Computer Science and Information Systems). 2017, vol. 10, ISBN: 978-83-65750-05-1. 🔗 DOI: 10.15439/978-83-65750-05-1.

Book Chapters

1   H. Baek, V. Bijalwan, A. M. Khan, M. Jeong, V. Vellaiyan, and Y. Kim, "Present and future of exoskeleton robots for rehabilitation: Actuation mechanisms review," in *Rehabilitation Robotics and Healthcare Devices*, Elsevier, 2025, pp. 13–26.

2   V. Bijalwan, H. Baek, A. M. Khan, S. Mohamed, and Y. Kim, "Per-hdl: Physiotherapy exercise recognition with rgb-d kinect sensor and hybrid deep learning models," in *Rehabilitation Robotics and Healthcare Devices*, Elsevier, 2025, pp. 153–174.

3   J. D. Kusumba, L. G. Rao, and V. Bijalwan, "The introspective gait cycle dynamics and body instability through leg orientation analysis," in *Innovations and Challenges in Computing, Games, and Data Science*, IGI Global Scientific Publishing, 2025, pp. 315–328.

4   V. B. Semwal, A. Mazumdar, A. Jha, N. Gaud, and V. Bijalwan, "Speed, cloth and pose invariant gait recognition-based person identification," in *Machine learning: theoretical foundations and practical applications*, **Q1 Scopus Indexed**, Springer, 2021, pp. 39–56.

List of Publications (Under Process)

2025   🔖 Manuscript Submitted: "Strika: Triple-Term Contrastive Learning with Selective State Spaces for Fast and Interpretable Text Dynamics" submitted to *NeurIPS 2025*, currently under review.

🔖 Manuscript Submitted, "Latents Don't Lie: Measuring Semantic Entropy for Better Alignment in Language Models," submitted to *NeurIPS 2025*, currently under review.

🔖 Manuscript Submitted, "Obey the Automaton: Learning Grammar-Constrained Generation with Soft RL," submitted to *NeurIPS 2025*, currently under review.

🔖 Manuscript Submitted, "Koopman Operator Framework for Predictive and Interpretable Modeling of Semantic Drift," submitted to *IEEE Transactions on Audio, Speech and Language Processing*, currently under review.

🔖 Manuscript Submitted, "Gated Transformer Networks for IMU-Based Human Activity Recognition with Explainability and Synthetic Generalization," submitted to *IEEE Sensors Journal*, currently under review.

🔖 Manuscript Submitted, "Context-Aware Question Generation with Multi-Metric Evaluation (ROUGE, BERTScore, METEOR, SHAP) and Explainable AI in Transformer-Based Text Generation," submitted to *Computer Speech & Language* (Elsevier), currently under review.

🔖 Manuscript Submitted, "Hybrid ConvNeXt-Liquid Neural Network for Satellite Image Classification: A Benchmark on EuroSAT Dataset," submitted to *IEEE Transactions on Geoscience and Remote Sensing (TGRS)*, currently under review.

List of Publications (Under Process) (continued)

- Manuscript Submitted, "Sparse Is Smart: Efficient 3D Point Cloud Transformers Without Positional Encoding," submitted to *Information Sciences* (Elsevier), currently under review.

- Manuscript Submitted, "SpectralONN: Phase-Aware Functional Operator Networks for Interpretable Frequency-Domain Learning," submitted to *Information Sciences* (Elsevier), currently under review.

- Manuscript Submitted, "C3QG: Context-Controlled, Explainable, and Efficient Question Generation with Transformers," submitted to *Computer Speech & Language* (Elsevier), currently under review.

- Manuscript Submitted, "KoopFall: A Neurodynamic Koopman-LSTM Hybrid for Transparent Fall Detection with EEG-Guided Latent Error Modulation," submitted to *Multimedia Tools and Applications* (Springer), currently under review.

- EDL-HJAE: Multimodal Gait Analysis Using Ensemble Deep Learning and Hip Joint Asymmetry Evaluation, Multimedia Tools and Application. Under Review.

Other Indexed Publications

2021
- **V. Bijalwan, D. V. B. S., A. Shekhar**, "Wearable Sensor Based Human Behaviour and Pattern Recognition Applying Deep Learning Technique.", Antardrishti IUD Journal of Interdisciplinary research, pages 37-49.
- **D. Kiran, I. Sharma, V. Bijalwan**, "Next Stage Of Outbreak-Behavioral Fatigue and COVID-19.", Antardrishti IUD Journal of Interdisciplinary research, pages 22-36.

2016
- **V. Bijalwan, M. Balodhi**, "Improvement on Image resolution enhancement using SWT and LWT with brightness enhancement", Research in Intelligent Computing in Engineering RICE 2016, Tata McGraw Hill TMH, Vol 1, Issue 1, ISBN-10: 93-5260-126-2, pages 367-370.

- **Vishwanath Bijalwan, Meenu Balodhi**, "Improved Edge detection Technique using Wavelet Transform, Binarization and Median Filter", TMH publications RICE 2016 Proceedings hard cover book, Vol 1, Issue 1, pages 361-366.

2015
- **V. Semwal. V. Bijalwan**, "Data Parallelization: GPU Vs Multicore-A brief", Technical Report.
- **V. Bijalwan**, "An accurate multi-hop routing mechanism for temperature sensing using TelosB mote", Technical Report.

- **V. Bijalwan, M. Balodhi, A. Gusain**, "Human emotion recognition using thermal image processing and eigenfaces", International Journal of Engineering and Science Research, 1, 34-40.

2013
- **S. Singh, V. Bijalwan**, "Design Of Wireless Sensor Network Node On Zigbee For Water Level Detection", IJESR, Volume 3, Issue 8.

- **V. Bijalwan, S. Singh**, "Analysis & Design of Joint Phy-MAC Model of IEEE 802.15.4", IJSETR, Volume 2, Issue 9.

2012
- **N. Gandotra, V. Bijalwan, M. Panwar**, "Coexistence model of Zigbee & IEEE 802.11 b (WLAN) in ubiquitous network environment", International Journal of Advanced Research in Computer Engineering & Technology, 4(1), 680-684.

List of Intellectual Property Rights / Patents

2025   **Predictive Modeling of Semantic Drift Using Koopman Operators in Natural Language Processing, Indian Patent Application No. 202511036480 A, Status: Published (Date of Publication: 15/04/2025)**

   SPECTRALONN: Phase-Aware Functional Operator Networks for Interpretable Frequency-Domain Learning, Indian Patent Application No. 202511078848 A, Status: Published (Date of Publication: 05/09/2025)

   Early Detection of Heart Attacks through Adaptive Data-Driven Prediction Models for Cardiac Stress Signals, Indian Patent Application No. 202541090645 A, Status: Published (Date of Publication: 15/01/2025)

   A Blockchain-Enabled Framework for Crop Disease Prediction and Farmer Advisory Services, Indian Patent Application No. 202541053366 A, Status: Published (Date of Publication: 13/06/2025)

   Development of a Self-Adaptive AI Model for Computerized Recognition and Identification of Paddy Diseases, Indian Patent Application No. 202541053362 A, Status: Published (Date of Publication: 13/06/2025)

   Hybrid LNN and Q-Lattice XAI Framework for Satellite Image Classification, Indian Patent Application No. 202541046929 A, Status: Published (Date of Publication: 30/05/2025)

   Augmented Reality-Enabled Remote Sensing System for Land Cover Classification Using a Hybrid ConvNeXt-Liquid Neural Network Model, Indian Patent Application No. 202541046936 A, Status: Published (Date of Publication: 30/05/2025)

   Recommendations for Generating Automatic Captions Based on Visual Content, Indian Patent Application No. 202541014308 A, Status: Published (Date of Publication: 07/03/2025)

   System and Method for Prediction of Rice Plant Diseases, Indian Patent Application No. 202541037107 A, Status: Published (Date of Publication: 16/05/2025)

2024   **Ein integriertes System für Echtzeit-Computing- und Stromverwaltung, German Patent application no. 2024011819173800DE,Status : Granted, (Date of Publication: 27/02/2024)**

2022   **A System and Method for Bipedal Walking Trajectories Generation and Analysis of Gait Abnormality. Indian Patent 497221, Status : Granted**

   An Efficient Adaptive Beamformer for Cellular Communications.Indian Patent,application no. 202141016330,Status : Filed

2021   **Improved Signum error LMS method for Directions-of-Arrival Estimation of Radio Signals using Rotational Invariance Technique.Indian Patent, application no. 202141028809,Status : Filed**

Academic Contributions

May 2025   **External Syllabus Reviewer—Amity University, Noida, India** Invited to review and provide expert feedback on the revised postgraduate syllabus titled *"Deep Learning Algorithms and Applications"* as part of curriculum modernization at Amity School of Engineering and Technology, Department of CSE.

   External Syllabus Reviewer – Karnavati University, Gandhinagar, India Reviewed B.Tech 3rd semester syllabi for the courses *Electronic Devices and Circuits, Digital System Design, and Circuit Theory and Simulation* at Unitedworld Institute of Technology (UIT). Provided recommendations to enhance academic depth and industrial relevance.

Reviewer / Editor/ Board Member

Current

🔖 **Reviewer**, IEEE Sensor Journal.
Reviewer, IEEE Signal Processing Letters.
Reviewer, Member of IEEE Robotics Society.
Reviewer, Robotica, Cambridge University Press.
Reviewer, IEEE Sensors letters.
Reviewer, ACM Transactions on Management Information Systems (SCI indexed).
Reviewer, Expert Systems, Wiley (SCI indexed).
Reviewer, Journal of Control and Decision (SCI indexed).
Reviewer & International advisory board member, Industrial Robot (SCI Indexed, Q2 Ranked Journal) Emerald Publishing Group.
Reviewer, International Journal of Distributed Sensor Networks (SCI Indexed).
Reviewer, Wireless Communications and Mobile Computing (SCI Indexed).
Reviewer, Multiple Journals of MDPI (SCI Indexed).
Reviewer, Computer Methods in Biomechanics and Biomedical Engineering (SCI Indexed).
Reviewer, Recent Patents on Engineering (SCI Indexed).
Reviewer, IEEE Transactions of Latin America (SCI Indexed).
Reviewer, Cluster Computing (SCI Indexed).
Editorial Board Member, Industrial Robot, Emerald (SCI and Scopus Indexed)
Editorial Board Member, International Journal of Interactive Multimedia & Artificial Intelligence (IJIMAI, SCI Indexed), Spain.
Editorial Board Member, Digital Manufacturing Technology Journal (ISSN: 2810-9317, ESCI indexed).
Editorial Board Member, International Research Journal of India (IRJI, ISSN 2454-8707).
Editorial Board Member, International Journal of Machine Learning and Networked Collaborative Engineering (IJMLNCE, ISSN 2581-3242).
Reviewer, IGI Global, USA.
Reviewer Board Member, OMICS Publishing Group-BIOBIO.
International Advisor, Japan-Bangladesh Robotics & Advanced Technology Research Center (JBRATRC).

2026

🔖 **Technical Program Committee Member, 8th International Conference on Image Processing, Machine Vision & Pattern Recognition (IPMV 2026), Da Nang, Vietnam. Contributing to review and evaluation of submissions for the conference.**

2025

🔖 **Session Chair / Judge, 5th International Conference on Intelligent Vision and Computing (ICIVC 2025), organized by The ICFAI University, Dehradun, during June 13–14, 2025. Chaired the session titled "TS 01: Data Analytics and Computing".**

🔖 **Technical Program Committee Member, 2025 11th International Conference on Communication and Signal Processing (ICCSP), which is going to be conducted from 5th to 7th June 2025 at Adhiparasakthi Engineering College, Melmaruvathur, Tamilnadu, India.**

2024

🔖 **Invited Chair, International Conference on Innovation and Challenges in Computing and Innovative Technologies for Sustainable Future (ICCIT-2024), conducted at British University Vietnam, Hanoi, Vietnam, from 12th to 14th December 2024.**

🔖 **Keynote Talk and Inauguration Chair, National Conference on Computing, Communication and Intelligent Systems on 22nd and 23rd April 2024 at Guru Nanak Dev Engineering College, Bidar, Karnataka.**

🔖 **Session Chair, 13th IEEE International Conference on Communication Systems and Network Technologies (CSNT-2024) at Gyan Ganga Institute of Technology and Sciences, Jabalpur**

🔖 **Session Chair, 5th International Conference on Recent Trends in Machine Learning, IoT, Smart Cities, and Applications (ICMISC-2024) at CMR Institute of Technology, Hyderabad**

Reviewer / Editor/ Board Member (continued)

2023 ▌ **Session Chair, The 8th International Conference on Research in Intelligent Computing in Engineering(RICE-2023) at Maulana Azad National Urdu University(Central university of India) Hyderabad**
Session ChairAICTE sponsored IEEE international conference on Networks, Multimedia and Information Technology(NMITCON-2023) at NITTE Meenakshi Institute of Technology Bangalore, India, during 1 to 2 September 2023.
Reviewer (Technical Committee Member), The 9th International Conference on Fuzzy Systems and Data Mining (FSDM 2023) China.

2022 ▌ **Technical Program Committee Member**, 7th International conference on Research in Intelligent Computing in Engineering RICE-2022, Thu Dau Mot University, Vietnam.
Technical Program Committee Member, 8th International conference on Advances in Computing and Communication Engineering ICACCE-2022, Cyprus.
Technical Program Committee Member, Springer Conference ICCISC-2022, Dev Bhoomi University, Dehradun, Uttarakhand.
Technical Program Committee Member, Springer Conference International conference ICAMIDA 2022, JNEC Aurangabad.
Session Chair, Springer Conference MISP-2022, National Institute of Technology, Raipur.
Reviewer (Technical Committee Member), FSDM-2022, Xiamen, China.
Technical Program Committee Member, IEEE International conference ICACCM 2022, Tulas Institute, Dehradun.
Technical Program Committee Member, 7th International conference RICE 2022, Hung Yen University of Technology and Education, Vietnam.
Session Chair, International conference ICAMMT-2022, Maulana Azad National Institute of Technology, Bhopal.

2021 ▌ **Program Chair**, International Conference ICACCT 2021 at GNDEC Bidar Karnataka.
Technical Program Committee Member, International conference eC-DSIC 2021 at Thakur College of Engineering and Technology Mumbai.
Organizing Secretary, 24th FAI-ICDBSMD 2021 Springer International conference.

2020 ▌ **International Advisory Committee Member**, ICSIDEMPC-2020, JNEC Aurangabad
Reviewer, International conference FRSM-2020, NIT Silchar.
Special Session Chair, 6th IEEE International Conference on Advances in Computing and Communication Engineering (ICACCE-2020), LAS VEGAS, USA.
Organizing Chair, International virtual conference on Integrated Intelligence Enable Networks & Computing IIENC-2020.

2019 ▌ **Council Chair and Program Steering Committee Chair**, Springer conference RICE 2019, Hanoi, Vietnam.

2018 ▌ **Program Chair**, IEEE conference RICE 2018, El-Salavador.
Session Chair, International conference New Technological Opportunities in Networking and Sciences NEWTONS, SIT Pithoragarh.
National Advisory Committee Member and Technical Program Committee Member, National Conference at THDC-IHET 2018 (NCECIC 2018).

2017 ▌ **Organizing Chair**, IEEE Conference RICE 2017, IT, Gopeshwar, India during 24-26 March 2017.
Technical Program Committee Member, IEEE Conference ICISIM-2017, JNEC Aurangabad.
Co-Convener, National Conference on Progressive Science & Engineering NCPSE, IT Gopeshwar.
Reviewer, IEEE Conference WICON-ECE 2017.
Convener, National Conference on Progressive Science & Engineering NCPSE, IT Gopeshwar.
National Advisory Committee Member and Technical Program Committee Member, National Conference at THDC-IHET 2018 (NCECIC 2017).

Reviewer / Editor/ Board Member (continued)

2016   🔖 **Special Session Chair**, Conference RICE.
Reviewer, IEEE Conference ICACCCA, Dehradun.
Reviewer, IEEE Conference ICACCA, MJP Rohilkhand University, Bareilly, India.
Publicity Committee Member, IEEE Conference ICACCE, Durban, South Africa.
Reviewer, IEEE Conference ICACCE, Durban, South Africa.
Program Committee Member, IEEE Conference CICN, Dehradun, India.
Co-Convener, National Conference on Progressive Science & Engineering NCPSE, IT Gopeshwar.
Technical Program Committee Member, National conference on Recent Trends in Computing & Electronics (COMEC), IIIT Dharwad.

2014   🔖 **Executive Committee Member**, IOCRSEM Conference, WIT Dehradun.

Administrative Experience

October 2017- 30 December 2020   🔖 **Project Coordinator, Technical Education Quality Improvement Program (TEQIP-III)**, Institute of Technology Gopeshwar, Government of India Project, National Project Implementation Unit (MHRD).

01 October 2021 – 23/09/2023   🔖 **Dean of Administration** Institute of Technology Gopeshwar.

03/10/2013 – 30/09/2017   🔖 **Head of Department (HOD), ECE**, Institute of Technology Gopeshwar.

08/09/2016 – 30/09/2017   🔖 **Dean of Academics**, Institute of Technology Gopeshwar.

07/10/2013 – June 2017   🔖 **Officer in Charge / Exam Controller**, Institute of Technology Gopeshwar.

2013-2022   🔖 **Officer, Director**, Handled the Charge of Director in absence at Institute of Technology Gopeshwar.

2017-2022   🔖 **Nodal Officer**, AISHE MHRD at Institute of Technology Gopeshwar.

2015-16, 2017-18   🔖 **Counseling Board Secretary for Admissions**, at Institute of Technology Gopeshwar.

Since 2013   🔖 **Infrastructure Developer**, Developed many Laboratories, library, Auditorium, and workshops at Institute of Technology Gopeshwar.

Dates   🔖 **Deputy Evaluation Head**, University Examination at at Institute of Technology Gopeshwar.

🔖 **Member**, Discipline Committee, Member Grievance Redressal Committee at Institute of Technology Gopeshwar.

2017   🔖 **Contributor**, designed CAD maps of polling booths for District Chamoli in Uttarakhand Assembly Elections.

2015,2016   🔖 **Assistant Controller of Examination**, Various Government, UKSEE & Group C Exams at Institute of Technology Gopeshwar.

Administrative Experience (continued)

January-April 2022	🔖 **Election Duty Handler**, Experience in handling election duty of C-vigil monitoring systems and ETPBS in Indian elections at district collectraite Chamoli, India.

Short Term Courses/FDP Organized, Attended

05-09 October 2021	🔖 **Organizer**, AICTE ATAL 01-week FDP on Internet of Things.
05 and 06 July 2020	🔖 **Organizer**, 02-day online workshop on Artificial Intelligence & Deep Learning.
11-15 June 2018	🔖 **Organizer**, 01 Week FDP on Innovation in Solar-Based Applications & Recent Trends at IT Gopeshwar.
26-31 August 2019	🔖 **Organizer**, 01-week workshop on essential life, social, & entrepreneurship skills development for students at the Institute of Technology Gopeshwar.
17-21 September 2018	🔖 **Organizer**, One-week STC on Analysis and Optimization of 5G Wireless Communication at ECED UIET Kurukshetra, TEQIP-III.
26-27 February 2019	🔖 **Organizer**, 2 days' workshop on graphene-based device fabrication and characterization at UIET Kurukshetra.
16-17 March 2018	🔖 **Organizer**, 2 days' workshop on NBA-OBE at IT Gopeshwar.
16-17 November 2018	🔖 **Organizer**, 2 days' workshop on IOT at IT Gopeshwar.
26-31 August 2019	🔖 **Organizer**, 01 Week FDP on Futuristic Electronics Materials, Devices, and Their Applications at UIET Kurukshetra.
16-20 September 2019	🔖 **Organizer**, 01 Week Workshop on "Machine Learning using Python" at Institute of Technology Gopeshwar.
02-04 September 2019	🔖 **Organizer**, 03 days' workshop on "Designing Internet of Things Projects-—A Hands-on Practice" at UIET Kurukshetra.
20-25 July 2020	🔖 **Organizer**, 05 days Art of Living workshop for institute faculties and staff.
29/04/2017	🔖 **Organizer**, blood donation camp with IMA Blood Bank in the institute.
18-22 June 2018	🔖 **Attendee**, 01 Week Workshop on "Active Learning, Autonomy, Academic Governance, and R&D" at IIT Roorkee.
28 Jan – 01 February 2018	🔖 **Attendee**, 01 Week PDT Program on Management Capacity Enhancement Program for Teaching Staff at Port Blair.
3-7 December 2018	🔖 **Attendee**, 01 Week Professional Development Training at IIM Tiruchirappalli.
17-21 June 2019	🔖 **Attendee**, 01-week course on end-to-end innovation at IIT Bombay.
04-08 June 2018	🔖 **Attendee**, 01 Week FDP on Network & Cyber Security at THDC-IHET, New Tehri.

Technical Courses / Training / Workshops

2022   **Participated**, in ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP) ON Industrial Automation and Robotics (1 – 13 August 2022) Organized by Electronics & ICT Academy, NIT Warangal.

2020   **Participated and completed successfully**, AICTE Training and Learning (ATAL) academy online FDP on Robotics from 25/05/2020 to 29/05/2020 at MANIT Bhopal.

  Participated and completed successfully, AICTE Training and Learning (ATAL) academy online FDP on Artificial Intelligence from 11/05/2020 to 15/05/2020 at MANIT Bhopal.

  Successfully participated, in two-week online Faculty Development Program on Recent Research Trends in Electronics and Communication Engineering" at GBPIET Pauri from 18th Aug-28th Aug 2020.

2017   **Participated**, in the International Workshop on Pattern Recognition (IWPAA) at the Indian Statistical Institute Kolkata, 18 to 20 January 2017.

2015   **Attended a workshop**, on Intellectual property right: In house patent filling on 24/08/2015 organized by CEP, UTU Dehradun.

Year   **Completed**, Coursera course on Structuring Machine Learning Projects.

  Completed, Coursera course on Improving Deep Neural Networks: Hyperparameter Tuning, Regularization, and Optimization by deeplearning.ai.

  Completed, Coursera course on Hierarchical Clustering: Customer Segmentation.

  Completed, Coursera course on Fundamentals of Scalable Data Science by IBM.

  Completed, Coursera course on Fundamentals of Network Communication by the University of Colorado.

  Completed, Coursera course on Neural Networks and Deep Learning by deeplearning.ai.

  Completed, Coursera course on Programming for Everybody (getting started with Python), University of Michigan.

Additional Experiences and Achievements

2020   **Academic Expert**, Course Review Committee of the stream 'Electronics Engineering' of Amity Polytechnic, Greater Noida Campus.

08 July 2020   **Participant**, IEEE-ABET webinar on "Accreditation and Quality of Engineering Education in South Asia".

04 June 2020   **Participant**, IEEE webinar on "Relevance of IEEE standards in Teaching, Learning and Industry Collaborations".

2020   **Participant**, Webinar on Digitalization in Education organized by Saintgits college of Engineering.

2007   **Trainee**, B.Tech vocational training in Tehri hydro development corporation THDC. Project: "operation and maintenance of various equipment's installed at THDC New Tehri".

Additional Experiences and Achievements (continued)

Trainee, B.Tech vocational training at BHEL automatic controls. Worked on Control and Instrumentation department in BHEL Haridwar.

21 July 2010   **Participant**, Successfully completed the course Network Technology & Devices from HCL-CDC Dehradun.

2007   **Trainee**, Training at Nokia Siemens N/W with focus on GSM Technology.

2011   **Attendee**, 3-day Workshop at Indian institute of Technology Kanpur on "Cognitive Radio- The next frontier in wireless communication" organized by BSNL-IITK Telecom center of Excellence.

2008   **Presenter**, Delivered a seminar on topic, temperature regulated nonlinear micro valves for self-adaptive MEMS cooling.

24/08/2015   **Attendee**, Workshop on Intellectual property right: In house patent filling organized by CEP, UTU Dehradun.

2015   **Coordinator**, Successfully coordinated a one-week course of PLC/SCADA for the students of IT Gopeshwar with the experts of CETPA Dehradun.

Attendee, Two-day workshop at Institutions of Engineers Dehradun Jointly organized by IEI and UTU Dehradun.

18-20 January 2017   **Participant**, International workshop on pattern recognition (IWPAA) in Indian statistical Institute Kolkata.

1 – 13 August, 2022   **Participant**, Online faculty developement programme (FDP) ON Industrial Automation and Robotics. Organized by Electronics & ICT Academy, NIT Warangal.

Keynote Talks

2025   Delivered an expert talk on "**Research Roadmap: Topic Selection, Scientific Writing, and Overleaf for Academic Publishing**" during the One Week Online Workshop on Academic and Applied Research(21-25 June), organized by the **Department of Computer Science, GIET University**, Gunpur, Odisha, on 23 June 2025.

Delivered an expert lecture and conducted a lab session on "**IoT Devices, Sensors, and Data Analytics in the Internet of Robotics**" during the Faculty Development Program organized by **EICT IIT Roorkee and GIET University**, Gunupur, Odisha, on 04 April 2025.

Delivered an expert lecture on "**Intelligent Design and Control of Shape Memory Alloy-Based Actuators: Integrating AI Algorithms for Advanced Robotic Applications**" during the AICTE-ATAL Faculty Development Program (FDP) on "Importance of Artificial Intelligence in Robotics" at **IIITDM**, Kurnool, Andhra Pradesh.

Delivered an expert lecture on "Neural Networks and Deep Learning" during the 5-day FDP on "Strong Foundations in Data Science: Principles and Techniques" on 13th January 2025, focusing on Attention Mechanisms and Transformer Architectures with applications in NLP and Computer Vision.

Delivered an expert lecture on "IoT Devices & Sensors in the Internet of Robotics: Revolutionizing Automation and Connectivity" during the FDP on "Innovative IoT Solutions: From Concept to Implementations" at SR University, Warangal, Telangana, on 11th January 2025.

2024   Delivered an expert lecture on "Deep Learning and Generative AI" at Tulas Institute, Dehradun, India, on 21st and 22nd March 2024.

Keynote Talks (continued)

- Delivered a Keynote Talk Title: Unveiling the Future: Enhancing Human Activity Recognition through AI Assistance and Deep Learning Event: 5-day FDP on Advancements in Deep Learning, Machine Learning, Big Data, and AI at GNDEC Bidar Karnataka, India Date: 22 Feb. 2024

2023
- Delivered a keynote talk on "Multidisciplinary Investigations in Human Gait, Computer Vision, and Soft Robotics" at Brain AI Lab, School of Electronics Engineering, **Kyungpook National University**, Daegu, South Korea, on 18th September 2023.

2022
- Delivered a keynote talk on "Computational Model for Human Gait Based Activities Pattern Analysis and Push Recovery Stability of Bipedal Locomotion" at Eighth International Conference on Advances in Computing and Communication Engineering (ICACCE-2022) held in Cyprus during October 18-20, 2022.

2019
- **Keynote Speaker**, Delivered a keynote talk on energy conservation at IT Gopeshwar, jointly organized by IT Gopeshwar & Uttarakhand renewable energy & development agency (UREDA).

2015
- Delivered a Keynote talk in the workshop on "National Workshop on concept of Physics: Popular lectures, Demons and low-cost experiment-2" on February 21-22 2015.

Skills

Languages	Strong reading, writing competencies for English.
Area of Interest	Robotics, Machine Learning, Basic Electronics, Digital Electronics, Deep Learning.
Software's Used	Python, Lab View, MATLAB, ROS, Jetson Nano,Xavier, Cadence Many other softwares.
Instrument's Used	Jetson Nano,Arduino, Microsoft Azure Kinect, V2 and V1, YLidarG2, Wearable Sensors.
Misc.	Academic research, Editor Asignments, books, teaching, training, Keynote talk, LaTeX typesetting and publishing.

Miscellaneous Experience

Awards and Achievements

2024
- **DAAD Postdoc-NeT-AI Award**, selected as a DAAD AInet fellow for the Postdoc-NeT-AI 04/2024 Networking Week on Safety and Security in AI.

2022
- **Startup Challenge Award**, Won the Start-up Challenge award of KRW 2000000 and secured the second position in the competition organized by the Daejeon International Innovator Program.

2021
- **Excellence in the Research 2021**, facilitated by the Government of Uttarakhand, Uttarakhand Technical University, Uttarakhand Council of Science and Technology(UCOST) and Divya Himgiri on Teacher's Day, 05 September 2021.
- **Dr. Sarvapalli Radhakrishnan Certificate of Merit**, facilitated by the Sikshak Kalyan Foundation and AICTE Delhi.
- **Certificate of Appreciation** , Facilitated by honorable members of the Board of Governors for doing social service and different Innovative technology works for The Institute and Society during COVID-19 pandemic with full dedication and honesty.

2019
- **Project Award, PI, Grant TEQIP-III CRS, Uttarakhand Technical University (Dehradun, IN)**, A Preliminary approach to gait recognition and biomechanics of gait analysis.
- **Project Award, Co-PI, Grant TEQIP-III CRS, Uttarakhand Technical University (Dehradun, IN)**, Wireless Energy Harvesting Device for Intelligence Transporting System (ITS).

Certification

2025
- **Best Paper Award** at the International Conference on Electronics, AI, and Computing (EAIC-2025), technically sponsored by IEEE Delhi Section and held at Dr. B R Ambedkar NIT Jalandhar.

2022
- **Best paper Award** in International conference MISP 2022 at National Institute of Technology Raipur.

2010
- **Certification**, Successfully completed HCNA (HCL Certified Network Associate).

Miscellaneous Experience (continued)

2001 ▌ **Certification**, Passed NCC 'A' certificate with the rank of sergeant.

Government Assignments/University Assignments

2025 ▌ **PhD Admission Interview Panel Member (External Expert), SR University, Warangal, Telangana, India.** Nominated by the Hon'ble Vice-Chancellor to serve as an external panel member for the PhD admission interviews (full-time applicants only) for the School of Architecture (SoA) during the Odd Semester 2025–26 admissions held on 24th–25th June 2025.

2018-2019 ▌ **Auditor**, MIS data at GBPIET Pauri and BTKIT Dwarahat for Academic year under TEQIP-III.

▌ **Auditor**, Procurement data at THDC-IHET New Tehri under TEQIP-III.

▌ **Organizer**, A total of 11 BOG (Board of Governors) meetings of the Institute of Technology Gopeshwar, which includes the meeting with state government officials, reputed industrialists of the state, AICTE nominees, and senior academicians.

Mentorship and Student Projects

2022 ▌ **Mentor**, for the student team MTXO in Smart India Hackathon 2022. The team entered the grand finale with the project "IoT-Based Solution for Recording and Storing Metrics of Normal and Orthotic Legs for Analysis by Orthotists." (Project code: RK-766). The problem statement was raised by the Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment.

Scholastic Achievements

2004 ▌ **Participation**, Ascot—Arakot Abhiyan: a social service initiative for encouraging village people of the Uttarakhand state towards ecosystem, education and their developments.

10th Standard ▌ **Recipient**,Uttarakhand Government Merit scholarship.

2009 ▌ **Participant**, Group discussion organized by Hindustan Times on "Young Voters wants opportunities in state".

Professional Affiliations

2011 ▌ **Member**, International Association of Engineers, (Membership No. 113594).

2013 ▌ **Member**, UACEE Australia.
▌ **Member**, The Society of Digital Information and Wireless Communications.

2018 ▌ **Senior Member**, IEEE USA, (ID 94571691).

2023 ▌ **Professional Member**, Association for Computing Machinery (ID: 3047207).

▌ **Member**, Robotics and Automation Society.

Personal Information

Date of Birth ▌ Nov 07, 1985

Sex ▌ Male

Personal Information (continued)

Father's Name	■	Mr. Radhey Shyam Bijalwan
Marital Status	■	Single
Language Proficiency	■	English, Hindi
Indian Address	■	Village Bajawala, Kaulagarh, New Forest Dehradun, Uttarakhand, India 248006 (Permanent Address)
		School of Computer Science & Artificial Intelligence, SR University Ananathsagar, Hasanparthy, Warangal Urban, Hanumakonda, Telangana, India, Pin 246424(Office Address)
Contact Number	■	+91-8126937623

Declaration

I hereby declare that all the information I gave in this curriculum vitae is true and correct to the best of my knowledge and belief.

Dated: 19/03/2025
(Dr. Vishwanath Bijalwan)

References

Prof. Ruben Gonzalez Crespo
Vice-Rector for Academic Organization and Teaching Staff
Professor of Computer Science and Artificial Intelligence,
Universidad Internacional de La Rioja
Advisor to the Ministry of Education, Spain and Colombia,
in the University field
Spain
Daytime Phone No. +34 606012094
✉ ruben.gonzalez@unir.net

Prof. Manoj Kumar Panda
Professor, Department of Electrical Engineering
GBPIET Pauri (A Uttarakhand State Government Institute),
India
Director, Women Institute of Technology, Dehradun, India
Mob. No. +91-9412990833
✉ pandagbpec@gmail.com

Prof. Bjoern Eskofier
Professor, Head of the Chair
Department Artificial Intelligence in Biomedical Engineering
(AIBE)
Lehrstuhl für Maschinelles Lernen und Datenanalytik
University of Erlangen-Nuremberg
Room 01.014, Carl-Thiersch-Straße 2b, 91052 Erlangen
✉ bjoern.eskofier@fau.de

Dr. Vijay Bhaskar Semwal
Assistant Professor (Grade-I), Department of Computer Science and Engineering
Maulana Azad National Institute of Technology (MANIT),
Bhopal, India
Head, Human Ergonomics, Assistive and Haptic Lab
(HEAHL)
Mob. No. +91-7541805885, +91-8874142887
✉ vsemwal@manit.ac.in
Website: https://sites.google.com/site/wwwvbsemwalcom/

Prof. Duc-Tan Tran
Professor and Vice Dean, Faculty of Electrical and Electronic
Engineering
Phenikaa University, Hanoi, Vietnam
Head, Signal and System Analysis Laboratory (SSA Lab)
Mob. No. N/A
✉ tan.tranduc@phenikaa-uni.edu.vn
Website: https://ssalab.phenikaa-uni.edu.vn/
Google Scholar: https://scholar.google.com.vn/citations?user=lAEVs8QAAAAJ
ResearchGate: https://www.researchgate.net/profile/Duc-Tan-Tran

Prof. Youngshik Kim
Professor, Department of Mechanical Engineering
Hanbat National University, Daejeon, South Korea
Director, Intelligent Control & Robotic Systems Laboratory
(ICRS Lab)
Mob. No. +82-10-2307-3875
✉ youngshik@hanbat.ac.kr
Website: https://robot.hanbat.ac.kr/May11/people.html