

Dr. Utpal Barman

B.E., M.E., Ph.D.
☎ (+91) 9085040861
✉ utpalbelsor@gmail.com
📧 drutpalbarman
🌐 Outpalbarman inutpalbarman



About

Brief Profile **Dr. Utpal Barman**, As Dean of Faculty, Dean of Research, Associate, and Assistant Professor with 15+ years of experience is successfully contributing to Computer Science and Engineering with research and admin activities. After completing his B.E Degree from Assam Engineering College (Under GU), he completed his Master's and Ph.D. from Gauhati University. He had completed a total of 9 funded research/consultancy (Amount more than Rs. 65 lacs) projects funded by various funding agencies of India such as AICTE, CDB, MHRD, etc. He also acting as Co-PI in a project entitled "DST NIdhi iTBI" funded by DST, Gol of worth 4.85 Cr. Currently, 5 students are pursuing Ph.D. under his supervision and 2 have been awarded. He has also guided more than 15 Master theses and 25 undergraduate theses. He has 3 patents in his name in the area of Agri-informatics. He is also acting as Mentor/Advisor/Co-Founder of a startup named "Somadhan" which is funded by the AIC, NeatEHub, Assam Agricultural University, Jorhat. he has been driven to contribute to program outcomes by facilitating engagement and supporting learning objectives. He is an Enthusiastic professional with a background in academic advisement. He is recognized consistently for performance excellence and contributions to success in machine learning-based research. His strengths are in core programing language and python backed by research in Computer Science. His research interest is in Agri-Informatics, Machine Learning, Deep Learning, Data Science, and Computer Vision..

Research Plan and Experience **In Research**, Developing and optimizing algorithms with computer vision, and machine and deep learning for Agri-Informatics applications. So I believe that I can make a positive impact in solving complex engineering problems as well as driving innovative results. I have always enjoyed research and creative problem solving and I believe that my experience will be of value in any research opportunity. My research focuses on studying various aspects of Artificial Intelligence, to be precise Machine and Deep Learning, and its variety of applications in the Agri-computing area. I believe that my experience in the field of machine learning, Deep Learning, and computer vision, coupled with some funded research projects have provided me with the technical skills and expertise to work more and expand my knowledge in these fields. I will be happy enough to work in the following research areas using AI/ML and computer Vision. 1. AI applications for crop health monitoring (disease detection) and yield monitoring. 2. Drone-based technology for crop health monitoring and disease control. 3. Robotics application in agriculture for planting and harvesting of vegetables and fruits. 4. Development of AR VR-based Agri-computing technology for the betterment of farmers.).

Administrative Experience

Assam Skill University (A Govt. of Assam University)

March, 2025 – **Chairman, NCVET Committee of ASU, Member Coordinator AICTE ASU Committee, Member of University Research and Development Cell, Coordinator of University Research Program and Policy Development, Vice President of IIC, ASU.**

Role: Held key academic and administrative leadership roles at, contributing to research governance, policy development, regulatory coordination, and institutional quality enhancement. Actively promoted innovation, entrepreneurship, skill education standards, and university–industry collaboration through NCVET, AICTE, Research and Development Cell, and Institution's Innovation Council initiatives.

The Assam down town University, Guwahati (NAAC A+ University)

March,2023 – **Dean, Faculty of Computer Technology.**

March, 2025 **Role:** Monitoring the overall program including academics, examination, and research in the school.

The Assam Kaziranga University, Jorhat

Feb,2022 – **Dean Research.**

Feb, 2023 **Role:** Monitoring the overall research activities of Kaziranga University. Conducting the PhD entrance examination. Encouraging all the teaching staff, research scholars, and scientific officers to do productive research, especially in interdisciplinary areas. Provides mentoring to new faculty to do research and also assists in research project initiation through scientific collaboration. Encouraging students at Assam Kaziranga University also engage in research activities with the faculty members in different extramural funding research projects.

Collaboration Done With **IITG, IIT kharagpur, IIT Delhi, Gauhati University KIIT Incubation Centre** *Many More*

August,2022 – **Centre Head - COEDSS.**

Feb, 2023 **Role:** Monitoring, Innovating and Creating Interdisciplinary Research under the Centre Excellence in Data Science and Simulation. Started new certificate courses in emerging areas such as data science, AI-ML, Cyber security, and Full Stack Development in collaboration with **IBM**. Started a new area of research using AR VR Devices.

Collaboration Done With **IFSA Bangalore, IBM**

At GIMT- Guwahati

2021-2022 **Member of R & C**, Role - Promoting Research at GIMT. Monitoring Overall Research activities in the department of CSE at GIMT Guwahati.

2018-2022 **Coordinator of ERP Cell**, Role - Monitoring and Development of ERP System. Acting a Team leader for the development of ERP system..

2016-2022 **Coordinator SDIC**, Role - Monitoring of Software Development and Implementation Cell. Developed an Intra-system for faculty feedback. Developed institute website in collaboration with Webex..

2014-2022 **Joint Coordinator of Program Assessment Committee of Department of CSE**, Role - Departmental Program Assessment for NBA. Monitoring the Department outcome-based monitoring through the CO-PO-PSO mapping..

2013-2022 **Member of GIMT Mentor Mentoring System**, Role - Mentoring Students..

2013-2022 **Exam Coordinator - Laboratory**, Role - Conducting Examination of CSE Department laboratory.

Research and Teaching Experience

Assam Skill University (A Govt. of Assam University)

March,2025 – **Associate Professor.**

Till Date **Role:** Research and Teaching.

Subject Taken : In **Certificate Course and UG Machine Learning, and Python**, at ASU

The Assam down town University, Guwahati

March,2023 – **Professor.**

March,2025 **Role:** Research and Teaching.

Subject Taken : In **Ph.D., PG, Machine Learning, Algorithm**, at ADTU

The Assam Kaziranga University, Jorhat

February,2022 **Associate Professor.**

– Feb, 2023 **Role:** Research and Teaching .

Subject In **Ph.D., PG, Machine Learning , Algorithm, Pattern Recognition**, at KU
 Taken :

February,2022 **BOS Member at CSE Department, Kaziranga University.**
 – Feb, 2023 **Role:** Syllabus updating and Reviewing, Proposing New Course Structure, etc.

February,2022 **BOS Member at IT Department,SCS, Kaziranga University.**
 – Feb, 2023 **Role:** Syllabus updating and Reviewing, Proposing New Course Structure, etc .
[GIMT, Guwahati](#)

January,2011 **Assistant Professor (Senior).**
 – January, **Role:** Research and Teaching.
 2022

Subject In **Ph.D., PG, UG: Machine Learning, Neural Network, Computer Vision, Algorithm, DSA**, at
 Taken : [GIMT-G](#)

Collaborations With **Assam Agricultural University / Gauhati University / Barak Valley Engineering
 : College for funding Research Project**
[Kareng Technologies, Guwahati](#)

Feb,2016 – **Part time Consultant.**
 Present **Role:** Consultation.

Responsibilities Helping **Kareng Technologies in their DCS, DLMS, and LMS projects as Consultant**

Education

PhD **Information Technology, Gauhati University.**

Title: Design and Development of Digital Agriculture Expert System using Image Processing and Machine learning Techniques.

M.E(CSE) **Master of Engineering, Computer Science & Engineering, Gauhati University.**

B.E(CSE) **Bachelor of Engineering, Computer Science & Engineering, Assam Engineering College under Gauhati University.**

Funded Research / Consultancy Project

01/11/2023- DST Sponsored project entitled "**iTBI (NIDHI Inclusive Technology Business Incubator)**".
 31/10/2026 Sanction amount: Rs. 4,85,00,000/- Completion Time: 3 Year. **(Role : Co-PI)**

07/07/2023- NIELIT Guwahati Sponsored Consultancy project entitled "**NIELIT FREE COURSES at AdtU**".
 31/10/2023 Sanction amount: Rs. 3,00,000/- Completion Time: 3 Months. **(Role : PI)**

09/10/2023- AdtU Sponsored SEED grant entitled "**Empowering Sustainable Tea Farming through AI
 09/10/2024 driven pest and disease detection**". Sanction amount: Rs. 3,00,000/- Completion Time: 1
 Year. **(Role : PI)**

09/10/2023- AdtU Sponsored SEED grant entitled "**Diagnosis of Polycystic Ovary Syndrome with Machine
 09/10/2024 Learning and Data Analysis**". Sanction amount: Rs. 3,00,000/- Completion Time: 1 Year.
(Role : Co-PI)

09/10/2023- AdtU Sponsored SEED grant entitled "**Design a Computer-aided diagnosis/ detection (CAD)
 09/10/2024 system for Alzheimer's Disease based on Medical Images**". Sanction amount: Rs. 3,00,000/-
 Completion Time: 1 Year. **(Role : Co-PI)**

09/10/2023- AdtU Sponsored SEED grant entitled "**Detection of possible health disorders based on the
 09/10/2024 movement of cows using ensemble machine learning algorithms**". Sanction amount: Rs.
 3,00,000/- Completion Time: 1 Year. **(Role : Co-PI)**

- 09/10/2023– AdtU Sponsored SEED grant entitled "**Pharmacological Exploration of Anti-PCOS Properties of Selected Medicinal Plants from Northeast India in Experimentally Obese Animals and Developing an AI-Based Prediction Tool for PCOS in Young Women**". Sanction amount: Rs. 3,00,000/- Completion Time: 1 Year. **(Role : Co-PI)**
- 09/10/2024
- 10/04/2023– AIC-AAU NEATEHUB startup funded under ISANYA 7.0 for the startup **SomadhanAgriTech**. Sanction amounts Rs. 5,00,000/-,**(Role: Founder)**
- 31/03/2024
- 21/06/2022– Rungajaun Tea and Plantation Industries Pvt. Ltd Funded Consultancy Project entitled **App Based Tea Leaf Disease identification**". Sanction amounts Rs. 1,00,000/-**Role : PI**
- 21/06/2023
- 30/06/2022– The NECCON Funded Consultancy Project entitled "**Redesigning of Neccon Power and Infra Limited Website**". Sanction amounts Rs. 50,000/-,**Role- Role: PI**
- 30/12/2022
- 01/08/2022– The Assam kaziranga University (SEED) funded project entitled "**Digital Preservation and Identification of Bihu Dance applying Deep Learning Techniques**". Sanction amounts Rs. 3,20,000/-, **Role: PI**
- 24/02/2023
- 01/08/2022– AIC-AAU NEATEHUB funded incubation project entitled "**Design and Development of Rice Disease and Pest detection System**". Sanction amounts Rs. 2,20,000/-, **Role: PI and Founder**
- 31 /10/2022
- 18/03/2019– AICTE (RPS-NER) funded research project entitled "**Design and Development of a smart farming system to estimate the value of Chlorophyll and Nitrogen for the Tea Plant in Assam**". Sanction amounts Rs. 6,66,000/-, **Role: PI**
- 31/01/2022
- 14/03/2019– CDB (Kerala) funded research project entitled "**Design and Development of Digital Image Database with an Android Apps and Web system for the detection of major pests and diseases of coconut of Assam**". Sanction amounts Rs. 18,41,000/-,**Role- Co-PI** in collaboration with **Assam Agricultural University**
- 31/12/2021
- 17/07/2019– ASTU (TEQIP III) funded research project entitled "**Simulation and prediction of Monsoon on the short and long forecast for the various station of Assam**". Sanction amounts Rs. 2,74,000/-,**Role- PI** in collaboration with **Gauhati University**.
- 31/03/2021
- 28/08/2019– ASTU (TEQIP III) funded research project entitled "**Development of Computer based system to classify the different disease of Potato, Tomato and Maize**". Sanction amounts Rs. 2,74,000/-, **Role - PI** in collaboration with **Barak Valley Engineering College**.
- 31/03/2021
- 28/08/2019– ASTU (TEQIP III) funded research project entitled "**Breast cancer detection from mammographic images using Deep Learning architectures**". Sanction amounts Rs. 3,00,000/-, **Role - Co-PI** in collaboration with **Cotton University**.
- 31/03/2021
- 14/03/2017– Ezen Software and Technology Pvt. Ltd.(<http://ezen.technology/partners.php>) funded Consultancy entitled "**IT Consultant For NE-NOW News Portal/ App and Web Developer For NE-JOBS Portal**". Consultancy amounts Rs. 1,99,152/-, **Role -Joint Consultant**
- 31/12/2018

Conference / Symposium / FDP Funding

- 02/11/2025– ATAL FDP on "Real-World AI and ML From Concept to Deployment in Industry 4.0 and 5.0" Role: Co-Cordinator, Amount: Rs. 1,00,,000/ - Funded By AICTE
- 07/11/202
- 02/12/2024– ATAL FDP on "Semiconductor Materials and Manufacturing Technology" Role: Co-Cordinator, Amount: Rs. 1,00,,000/ - Funded By AICTE
- 07/12/2024
- 24/03/2024– DSAPKI-2024 Role: Chairman, Amount: Rs. 1,79,,000/ - Funded By CDAC
- 24/03/2022
- 16/11/2022– NESID -2022 - Role: Co-Chairman, Amount: Rs. 2,00,000/ - SERB Assistance to Professional Bodies and Seminar Symposia (File No: SSY/2022/000681)
- 18/11/2022
- 14/11/2022– ALIST -2022 - Role: Co-Chairman Amount: Rs. 50,000/ - from CSIR (Ref No:SYM/11944-22 HR, Dated: October 20, 2022)
- 16/11/2022

Consultancy For AICTE BOOK Translation into the Assamese Language

27/12/2022–27/12/2023 **Reviewer**, Subject: *Data Structure and Algorithm - Sponsored and Authorized Assam Science and Technology University [AICTE CELL]*, .

27/12/2022–27/12/2023 **Reviewer**, Subject: *Computer Programming Theory and Practices - Sponsored and Authorized Assam Science and Technology University [AICTE CELL]*, .

Publications

Accepted /Under Review Journal Article

- 2025-26 **Utpal Barman et al.**, “Digital Twins in Agroforestry: AI, IoT, and Remote Sensing for Real-Time Decision Support”, In *International Journal of Tropical Insect Science (Springer) (Under Review) (SCIE) (I.F:1.2)*.
- 2025-26 **Utpal Barman et al.**, “A Review of Low-Resource Language-Based Multilingual Agricultural Natural Language Processing”, In *CM Transactions on Asian and Low-Resource Language Information Processing (TALLIP) (Under Review) (SCIE) (I.F:2.0)*.
- 2025-26 **Utpal Barman et al.**, “Predicting Students’ Academic Performance and Employability using an Interpretable Metaheuristic Time-Series Prediction Framework”, In *Discover Education(Under Review) (SCOPUS) (Cite Score = 0.8)*.
- 2025-26 **Utpal Barman et al.**, “Automated Coconut (Cocos Nucifera) Pest Damage Classification using Augmented Data and Deep Transfer Learning”, In *International Journal of Tropical Insect Science (Springer) (Under Review) (SCIE) (I.F:1.2)*.
- 2025-26 **Utpal Barman et al.**, “Optimizing Whisper Models for Low-Resource Bengali ASR Using Mozilla Common Voice 17”, In *Discover Computing (Springer) (Under Review) (SCIE) (I.F: 1.7)*.
- 2025-26 **Utpal Barman et al.**, “Understanding Emotions from EEG Data using Machine Learning and Deep Learning Methods”, In *Discover AI (Springer) (Under Review) (SCOPUS) (Cite Score: 6.0)*.
- 2025-26 **Utpal Barman et al.**, “Multi-Template DWT-VMD: An Open-Source Pattern Recognition Framework for EEG Signal Classification”, In *Franklin Open (Elsevier) (Under Review) (SCOPUS) (Cite Score: 1.4)*.
- 2025-26 **Utpal Barman et al.**, “Context-Aware AgriBot using DIET and Hybrid Deep Learning Mode”, In *IAES International Journal of Artificial Intelligence (IJ-AI) (Accepted) (SCOPUS) (Cite Score: 3.9 (Q2))*.
- 2025-26 **Utpal Barman et al.**, “Machine learning based smart grid prediction models for enhancing environmental sustainability”, In *Journal of Applied and Natural Sciences (Accepted) (SCOPUS) (Cite Score: 1.2)*.
- 2025-26 **Utpal Barman et al.**, “A Hybrid 1D CNN and Transformer Based Deep Learning Framework for Stroke Detection Using Brain CT”, In *Procedia Computer Science (Accepted through ICMLDE 2025) (SCOPUS) (Cite Score: 4.1)*.
- 2025-26 **Utpal Barman et al.**, “Decoding Human Facial Emotion Recognition using Deep Learning Methods”, In *Computación y Sistemas (Under Review) (SCOPUS and ESCI) (IF: 0.4)*.

Selected Journal Articles [Published]

- 2026 Selorm Adablanu, Utpal Barman, Dulumani Das, and Tuward Jade Dweh. Transforming skin cancer detection with ai-based convolutional and transformer models. *Iradiology*, volume 4, pages 51–62. Wiley Online Library, (SCOPUS), 2026.

- 2025 Gunikhan Sonowal, Soraisam Gobinkumar Singh, Prasanta Bairagi, Utpal Barman, Dulumani Das, Mammadov Iltimas, and Gulnar Gurbanova. Comprehensive evaluation and performance analysis of a deep learning model with hyperparameter tuning for lumpy skin disease classification in dairy cows. *Reliability: Theory & Applications*, ([SCOPUS](#)), volume 20, pages 58–65. - Gnedenko Forum, 2025.
- 2025 Soraisam Gobinkumar Singh, Dulumani Das, Utpal Barman, and Hasan Huseynov. Optimized cnn-based approach for alzheimer's disease by tackling class imbalance in mri classification. *Reliability: Theory & Applications*,([SCOPUS](#)), volume 20, pages 197–207. - Gnedenko Forum, 2025.
- 2025 Nabanita Daimary, Devabrata Sarmah, Arup Bhattacharjee, Utpal Barman, and Manob Jyoti Saikia. Geotechnical performance of lateritic soil subgrades stabilized with agro-industrial waste: An experimental assessment and ann-based predictive modelling. *Geotechnics*, volume 5, page 65. MDPI,([SCIE, IF:1.4](#)), 2025.
- 2025 Sangita Baruah, Vaskar Deka, Dulumani Das, Utpal Barman, and Manob Jyoti Saikia. Enhanced peer-to-peer botnet detection using differential evolution for optimized feature selection. *Future Internet*, ([SCI IF:3.0](#)), volume 17, page 247. MDPI, 2025.
- 2025 Selorm Adablanu, Utpal Barman, and Dulumani Das. A novel hybrid adaptive transformer framework with multihead self attention for stroke detection. *Discover Neuroscience*, volume 20, page 24. Springer,([SCIE, IF:4.0](#)), 2025.
- 2025 Selorm Adablanu, Utpal Barman, and Dulumani Das. Advancing deep learning for automated stroke detection: a review. *Brain Hemorrhages*, ([SCI IF:1.4](#)). Elsevier, 2025.
- 2025 Selorm Adablanu, Utpal Barman, and Dulumani Das. 15 years of optimizers in medical deep learning: A systematic review. *Neuroscience Informatics*, page 100249. Elsevier, ([SCOPUS CITE SCORE 11.7](#)), 2025.
- 2024 Soraisam Gobinkumar Singh, Dulumani Das, Utpal Barman, and Manob Jyoti Saikia. Early alzheimer's disease detection: A review of machine learning techniques for forecasting transition from mild cognitive impairment. *Diagnostics*, ([SCI IF:3.0](#)), volume 14, page 1759. MDPI, 2024.
- 2024 Debdeep Saha and Utpal Barman. Illustration of maiden frequency control scheme of combined cycle gas turbine and doubly fed induction generator integrated distributed energy resources based ai-enabled isolated power system. *Electrical Engineering (Springer)* ([SCI \(IF:1.8\)](#)), 2024.
- 2024 Amarjyoti Pathak, Th Shanta Kumar, and Utpal Barman. Static analysis framework for permission-based dataset generation and android malware detection using machine learning. *EURASIP Journal on Information Security*, ([SCI IF:2.5](#)), volume 2024, page 33. Springer, 2024.
- 2024 Amarjyoti Pathak, Utpal Barman, and Th Shanta Kumar. Machine learning approach to detect android malware using feature-selection based on feature importance score. *Journal of Engineering Research* ([SCI \(IF:1.00\)](#)). Elsevier, 2024.
- 2024 Shikhar Kr. Sarma Khurshid A. Borbor Manash P. Bhuyan Mazida A. Ahmed, Ridip Dev Choudhury and Utpal Barman. Hybrid deep ensemble for fine-grained race estimation. *Multimedia Tools and Applications*, ([SCI, IF:3.0](#)). Springer, 2024.
- 2024 Pranobjyoti Lahon, Aditya Bihar Kandali, Utpal Barman, Ruhit Jyoti Konwar, Debdeep Saha, and Manob Jyoti Saikia. Deep neural network-based smart grid stability analysis: Enhancing grid resilience and performance. *Energies*, ([SCI \(IF:3.2\)](#)), volume 17, page 2642. Multidisciplinary Digital Publishing Institute, 2024.
- 2024 Utpal Barman, Parismita Sarma, Mirzanur Rahman, Vaskar Deka, Swati Lahkar, Vaishali Sharma, and Manob Jyoti Saikia. Vit-smartagri: Vision transformer and smartphone-based plant disease detection for smart agriculture. *Agronomy* ([SCI \(IF:3.5\)](#)), volume 14, page 327. MDPI, 2024.
- 2024 Utpal Barman and Manob Jyoti Saikia. Smartphone contact imaging and 1-d cnn for leaf chlorophyll estimation in agriculture. *Agriculture*, ([SCI IF:3.2](#)), volume 14, pages 1–18. Springer, 2024.

- 2024 Utpal Barman, Dulumani Das, Gunikhan Sonowal, and Mala Dutta. Innovative approaches to rice (*oryza sativa*) crop health: A comprehensive analysis of deep transfer learning for early disease detection. *Yuzuncu Yil University Journal of Agricultural Sciences*, (*SCOPUS*), volume 34, pages 314–322. Van Yuzuncu Yil University, 2024.
- 2023 **Barman, Utpal**, Chandanee Pathak, and Nirmal Majumder. Comparative assessment of pest damage identification of coconut plant using damage texture and color analysis. *Multimedia Tools and Applications (Accepted)* (*SCIE*) **I.F:3.6**, 2023.
- 2023 Ananya Kalita, Pranveer Singh, Sunandan Baruah, Utpal Barman, and Ankur Pan Saikia. A discussion to promote global sustainability techniques for motivating plastic waste to minimize carbon footprints. *Environmental Quality Management*, (*SCOPUS*, volume 33, pages 327–339. Wiley Online Library, 2023.
- 2023 Utpal Barman, Ridip Dev Choudhury, Bishwajeet Bal, Anirban Bhattacharjee, Samujjal Talukdar, Nilanjan Nath, Parikhit Basnet, and Abhay Bhowmick. Performance analysis of support vector machine for early identification of citrus diseases. *Journal of Applied and Natural Science* (*SCOPUS*), volume 15, pages 852–859, 2023.
- 2022 **Barman, Utpal**, Ridip Dev Choudhury, and Shikhar Kr. Sarma. **Smartphone assisting convolutional neural networks for soil texture classification in dry and wet humid conditions in West Guwahati, Assam**. *Journal of Applied and Natural Sciences*, volume 13, pages 1191–1202. ANFS (*SCOPUS*), 2022.
- 2022 **Barman, Utpal**, Vishal Barman, Nawaz Khan Choudhury, Mustafizur Rahman, and Shikhar Kumar Sarma. **Unsupervised Extractive News Articles Summarization leveraging Statistical, Topic-Modelling and Graph-based Approaches**. NIScPR-CSIR, JSIR, India ((*SCIE*, **IF = 0.55**)), 2022.
- 2022 Dipankar Dutta, Ridip Dev Choudhury, and **Barman, Utpal**. **Assamese Speech-based Vocabulary Identification System using Convolutional Neural Network**. *International Journal of Computing and Digital Systems*, volume 12, pages 1191–1202. University of Bahrain (*SCOPUS*), 2022.
- 2021 **Barman, Utpal**, Ridip Dev Choudhury, Bipul Kumar Talukdar, George Bhokta, Sahrul Alom Choudhari, and Abhinab Saikia. **Smartphone assist deep neural network model to recognize the high-quality tea using leaf maturity and its effect on leaf chlorophyll**. *Journal of Applied and Natural Science* (*SCOPUS*), volume 13, pages 1249–1255, 2021.
- 2021 **Barman, Utpal** and Ridip Dev Choudhury. **Smartphone Assist Deep Neural Network to Detect the Citrus Diseases in Agri-Informatics**. *Global Transitions Proceedings*. Elsevier, 2021.
- 2021 **Barman, Utpal**. **Deep Convolutional neural network (CNN) in tea leaf chlorophyll estimation: A new direction of modern tea farming in Assam, India**. *Journal of Applied and Natural Science* (*SCOPUS*), volume 13, pages 1059–1064, 2021.
- 2020 **Barman, Utpal**, Ridip Dev Choudhury, Diganto Sahu, and Golap Gunjan Barman. **Comparison of convolution neural networks for smartphone image based real time classification of citrus leaf disease**. *Computers and Electronics in Agriculture*, volume 177, page 105661. Elsevier, **SCIE, IF = 6.7**, 2020.
- 2020 **Barman, Utpal** and Ridip Dev Choudhury. **Soil texture classification using multi class support vector machine**. *Information processing in agriculture*, volume 7, pages 318–332. Elsevier **SCOPUS, IF = 7.7**, 2020.
- 2020 **Barman, Utpal** and Ridip Dev Choudhury. **Smartphone image based digital chlorophyll meter to estimate the value of citrus leaves chlorophyll using Linear Regression, LMBP-ANN and SCGBP-ANN**. *Journal of King Saud University-Computer and Information Sciences*. Elsevier, **SCIE, IF = 8.83**, 2020.

- 2019 **Barman, Utpal**, Uzzal Sharma, Animesh Sarmah, and Pranoy Bhowmick. **Double Stage chain routing Protocol in WSN**. *ADBU Journal of Engineering Technology*, volume 8, 2019.
- 2019 **Barman, Utpal** and Ridip Dev Choudhury. **Prediction of Soil pH using Smartphone based Digital Image Processing and Prediction Algorithm**. *Journal of Mechanics of Continua and Mathematical Sciences (ESCI)*, volume 14, pages 226–249, 2019.
- 2019 **Barman, Utpal** and Ridip Dev Choudhury. **Bacterial and Virus affected Citrus Leaf Disease Classification using Smartphone and SVM**. *IJRTE (SCOPUS)*, 2019.
- 2018 **Barman, Utpal**, R Dev Choudhury, Arunav Saud, Sushmita Dey, MB Pratim, and BG Gunjan. **Estimation of chlorophyll using image processing**. *Int J Recent Sci Res*, volume 9, pages 24850–24853, 2018.

S Adablanu, U Barman, and D Das. Advancing deep learning for automated stroke detection: a review. *brain hemorrhages jul*. 2025.

Patent Granted / Published

- 2022 **Utpal Barman**, “IoT based Smart Parking System for Urban Mobility [Indian Patent- Application No: 202331052857] ”, *Status : Published* .
- 2022 **Utpal Barman**, “A NOVEL SUSTAINABLE IoT OPTIMISED HOUSING SYSTEM FOR SPEED HERBAL MEDICINAL PLANT BREEDING [Indian Patent- Application No: 202231061658] ”, *Status : Published* .
- 2022 **Utpal Barman**, “A SMART DIGITAL VERICOMPOST MICRO NUTRIENT QUALITY PREDICTION DEVICE[Indian Patent- Application No: 202231071386]] ”, *Status: Published*.

Selected Conference Proceeding and Book Chapter Publications

Total Conference: 13+ Nos, Book Chapter in International Publishers: 5+

- 2026 Selorm Adablanu, Utpal Barman, and Dulumani Das. Comparative efficacy of focal and binary cross-entropy loss in handling class imbalance for stroke ct classification. In *2026 Sixth International Conference on Advances in Electrical, Computing, Communications and Sustainable Technologies (ICAECT)*, pages 1–6. IEEE, 2026.
- 2025 Soraisam Gobinkumar Singh, Dulumani Das, and Utpal Barman. Integrating xai with optimized cnns: A novel approach for imbalanced alzheimer’s disease classification. In *International Conference on Emerging Trends and Technologies on Intelligent Systems*, pages 297–308. Springer, 2025.
- 2025 Simanta Kalita, Shikhar Kumar Sarma, Khurshid Alam Borbora, Rup Kumar Deka, Siddhartha Adhyapok, and Utpal Barman. Lstm-based event detection in a stream of assamese text. In *International Conference on Emerging Trends and Technologies on Intelligent Systems*, pages 281–293. Springer, 2025.
- 2022 **Barman, Utpal**, Angshuman Borpujari, Gitartha Kalita, Manish Saikia, Anindita Bhagawati, Akash Chetry, Anish Modi, and Mrina K. Mishra. **Digital Farming in Agriculture: A way to create digital leadership in NER**. In *Smart Computing Techniques and Applications*. ALIST, 2022.
- 2022 Naveen Kumar, **Barman, Utpal**, masset J Patrick, and TVVVLN Rao. **Triboinformatic approaches for composite coatings on titanium alloys**. In *1th International Conference on Industrial Tribology, IIT Delhi*. IIT Delhi, 2022.
- 2021 **Barman, Utpal**, Animesh Sarmah, Diganto Sahu, and Golap Gunjan Barman. **Estimation of Tea Leaf Chlorophyll Using MLR, ANN, SVR, and KNN in Natural Light Condition**. In *Proceedings of the International Conference on Computing and Communication Systems: I3CS 2020 (SCOPUS)*, NEHU, Shillong, India, volume 170, page 287. Springer, 2021.

- 2021 **Barman, Utpal**, Diganto Sahu, and Golap Gunjan Barman. **Comparison of LR, SVR, and DNN for the Rainfall Forecast of Guwahati, Assam**. In *Proceedings of the International Conference on Computing and Communication Systems: I3CS 2020, NEHU, Shillong, India*, volume 170, page 297. Springer, [SCOPUS](#), 2021.
- 2021 **Barman, Utpal**, Diganto Sahu, and Golap Gunjan Barman. **A Deep Learning Based Android Application to Detect the Leaf Diseases of Maize**. In *Proceedings of the Sixth International Conference on Mathematics and Computing (SCOPUS)*, pages 275–286. Springer, 2021.
- 2021 **Barman, Utpal**, Asif Ekbal Hussain, Mridul Jyoti Dahal, Puja Barman, and Mehnaz Hazarika. **Time Series Analysis of Assam Rainfall Using SARIMA and ARIMA**. In *Smart Computing Techniques and Applications*, pages 357–364. Springer, [SCOPUS](#), 2021.
- 2021 **Barman, Utpal**, Vishal Barman, Mustafizur Rahman, and Nawaz Khan Choudhury. **Graph Based Extractive News Articles Summarization Approach leveraging Static Word Embeddings**. In *2021 International Conference on Computational Performance Evaluation (ComPE) (SCOPUS)*, pages 008–011. IEEE, 2021.
- 2020 **Barman, Utpal**, Diganto Sahu, Golap Gunjan Barman, and Jayashree Das. **Comparative Assessment of Deep Learning to Detect the Leaf Diseases of Potato based on Data Augmentation**. In *2020 International Conference on Computational Performance Evaluation (ComPE) (SCOPUS)*, pages 682–687. IEEE, 2020.
- 2020 **Barman, Utpal**, Ridip Dev Choudhury, Asif Ekbal Hussain, Mridul Jyoti Dahal, Puja Barman, and Mehnaz Hazarika. **Comparative Assessment of AR, MA and ARMA for the Time Series Forecasting of Assam and Meghalaya Rainfall Division**. In *2020 International Conference on Computational Performance Evaluation (ComPE) (SCOPUS)*, pages 507–511. IEEE, 2020.
- 2020 Akalpita Das, Himanish Shekhar Das, **Barman, Utpal**, Arijeet Choudhury, Sourav Mazumdar, and Anupal Neog. **Detection of Breast Cancer from Mammogram Images Using Deep Transfer Learning**. In *International Symposium on Signal Processing and Intelligent Recognition Systems*, [SCOPUS](#), pages 18–27. Springer, 2020.
- 2019 **Barman, Utpal**, Ridip Dey Choudhury, and Ikbal Uddin. **Prediction of Soil pH using K mean Segmentation and HSV Color Image Processing**. In *2019 6th International Conference on Computing for Sustainable Global Development (INDIACom)*, [WoS/SCOPUS](#), pages 31–36. IEEE, 2019.

Book Edited

- 2021 **Utpal Barman**, Book: Computer Graphics and Multimedia, *Publisher: IDOL, Gauhati University*.
- 2022 **Utpal Barman**, Book: Programming in JAVA, *Publisher: KKHSOU, GU*.
- 2021 **Utpal Barman**, Book: Advancement of Computer Technology, *Publisher: AdtU*.

Selected Book Chapters in National Publishers and SLM (Total 39+ Book Chapters / SLM)

- 2018 **Utpal Barman**, Simplification of Boolean Algebra, *as SLM in IDOL, Gauhati University*.
- 2021 **Utpal Barman**, Techniques of Problem solving using Computers, *as SLM in KKHSOU, Guwahati*.
- 2021 **Utpal Barman**, Problem Solving using Computers, *as SLM in KKHSOU, Guwahati*.
- 2021 **Utpal Barman**, Priority Queue ADT I, *as SLM in IDOL, Gauhati University*.
- 2021 **Utpal Barman**, Tress and B+ Tree, *as SLM in IDOL, Gauhati University*.
- 2021 **Utpal Barman**, Image and Multimedia Database, *as SLM in IDOL, Gauhati University*.
- 2021 **Utpal Barman**, Software Maintenance Model", *as SLM in IDOL, Gauhati University*.
- 2021 **Utpal Barman**, Trees, *as SLM in IDOL, Gauhati University*.
- 2021 **Utpal Barman**, Database Design, *as SLM in KKHSOU, Guwahati*.
- 2021 **Utpal Barman**, Project Scheduling, *as SLM in KKHSOU, Guwahati*.
- 2021 **Utpal Barman**, Multiprocessor Systems, *as SLM in KKHSOU, Guwahati*.

- 2021 **Utpal Barman**, Introduction to Multiprogramming System, as SLM in KKHSOU, Guwahati.
- 2022 **Utpal Barman**, Introduction to JAVA, as SLM in KKHSOU, Guwahati.
- 2022 **Utpal Barman**, Operators and Assignments in JAVA, as SLM in KKHSOU, Guwahati.
- 2022 **Utpal Barman**, Programming Basic in JAVA, as SLM in KKHSOU, Guwahati.
- 2022 **Utpal Barman**, Class in JAVA, as SLM in KKHSOU, Guwahati.
- 2022 **Utpal Barman**, OOP in JAVA, as SLM in KKHSOU, Guwahati.
- 2022 **Utpal Barman**, Thread in JAVA, as SLM in KKHSOU, Guwahati.
- 2022 **Utpal Barman**, Animation Designing, as SLM in KKHSOU, Guwahati.
- 2025 **Utpal Barman**, Andoid Application Development, as SLM in KKHSOU, Guwahati.
- 2025 **Utpal Barman**, Artificial Intelligence and Machine Learning, as SLM in KKHSOU, Guwahati.
- 2026 **Utpal Barman**, AI Assisted Web programming, as SLM in KKHSOU, Guwahati.

Ph.D / M.Tech / B.Tech Thesis Supervision

PhD Supervising under **The Assam Skill University** / Co-Supervising under **Assam Science and Technology University (ASTU)**, NIT Meghalya, and ADTU Ongoing (Till): 3

Scholar 1: Mr. Chinmoy Bhardwaj **Topic:** A Study on QoS analysis and optimization in Edge Networks **Status:** [Awarded](#)

Scholar 2: Mr. Amar Jyoti Pathak **Topic:** Machine Learning in Malware Identification **Status:** [Awarded](#)

Scholar 3: Ms. Solem Adablenu **Topic:** Advancing brain stroke diagnosis through adaptive transfer learning: an investigation into improved classification and detection techniques **Status:** [Ongoing at ADTU](#)

Scholar 4: Mr. Pranab Jyoti Lahon **Topic:** Smart grid stability prediction using machine and deep learning **Status:** [Final registration Done at ASTU](#)

Scholar 4: Mr. Sagar Saikia **Topic:** Trend Analysis of Human Emotion Detection and classification using Deep Learning Techniques **Status:** [Ongoing at NIT Meghalaya](#)

M.Tech/MCA Total 8 Thesis in the area of ML/DL/CV

B.Tech More than 20 Thesis in the area of application development of ML/ DL / CV

International/ National Conference Organised

- 2016 **At GIMT Guwahati** , National Conference on Recent Innovative Trends in Science and Technology , *Role: **organising Secretary as Convener.***
- 2017 **At BVICAM New Delhi**, IndiaCom 2017 (IEEE Conference) , *Role: **TPC.***
- 2018 **At BVICAM New Delhi**, IndiaCom 2018 (IEEE Conference), *Role: **TPC.***
- 2019 **At BVICAM New Delhi**, IndiaCom 2019 (IEEE Conference) , *Role: **TPC.***
- 2020 **At NEHU Shillong**, ComPE -2020 (IEEE Conference) , *Role: **Session Chair .***
- 2021 **At NEHU Shillong**, ComPE -2021 (IEEE Conference) , *Role: **Session Chair .***
- 2022 **At Kaziranga University**, *ALIST-2022*, *Role: **Co-Chairman(LOC) .***
- 2022 **At Kaziranga University**, *NESID-2022*, *Role: **Co-Chairman(LOC) .***
- 2023 **At AdtU**, Recent Trends Fostering Future of Engineering (RTFFE 2023) - a special session on "Advancement in Computer Technology", *Role: **Organising Chair.***
- 2023 **At AdtU**, International Conference on Applications in Machine Learning and Data Science 2023, *Role: **Organising Chair.***
- 2025 **At AdtU**, NEC,ASU,and GU Sponsored regioal conference on Natural Language Processing" , *Role: **Member Organizing Committee.***

2025 **At AdtU**, AICTE Sponsored ATAL FDP ON "Real-World AI and ML: From Concept to Deployment in Industry 4.0 and 5.0" , Role: **Coordinator**.

Seminars/Short Term Courses/ FDP Attended and Organised

Attended A total 23 Seminars/ Conference /Short Term Courses/ FDP Attended

Organized A total 9 Seminars/ Conference /Short Term Courses/ FDP Organized

Details of Membership of Professional Bodies

26/3/2024 to "Member of Institution of Engineer - Computer Engineering Divison", Membership No M-1798205
till

29/5/2023 to "Computer Society of India", Membership No - 2023230002
29/5/2028

1/5/15 to "An Institute of research engineers and doctors", Membership No - AM1010004170
31/5/18

19/05/14 to "International Association of Engineers", Life time Membership No – 142256
till

12/06/14 to "International Association of Computer Science and Information Technology", Life Membership
till No – 803490

Invited Talk

03/01/26 to **Topic:**, AI in School Education, at *GCU under AICTE for PM SHRI schools*.
03/01/2026

03/01/26 to **Topic:**, Skill For Entrepreneurship, at *Gauhati University at GUenARK*.
03/01/2026

09/01/26 to **Topic:**, Artificial Intelligence in Contemporary Society: Opportunities, Ethical Challenges, and
24/01/2026 Misuse, at *USTM*.

12/12/25 to **Topic:**, AI VidyaSetu 1.0, at *Technology Innovation Hub of IIT Delhi!*.
12/12/2025

6/11/25 to **Topic:**, AI for Smart System, at *First International Conference on Smart Systems and Social
08/11/2025 Management at RGU Guwahati*.

8/10/25 to **Topic:**, Innovative Technology vis-à-vis New Age Education and Research, at *B. Borooh Collegei*.
09/10/2025

8/10/25 to **Topic:**, Innovative Technology vis-à-vis New Age Education and Research, at *B. Borooh Collegei*.
09/10/2025

29/08/25 to **Topic:**, Exploring Computer Science through Generative AI, at *NERIM Guwahati*.
29/08/2025

18/08/25 to **Topic:**, Skill Education and its Growing Demand, at *Assam Engineering Institute*.
18/08/2025

11/08/25 to **Topic:**, AI in Interdisciplinary Electronic Applications, at *KPR Institute of Engineering and
20/08/2025 Technology*.

07/08/25 to **Topic:**, AI and Machine Learning in Digital Manufacturing, at *TRTC Guwahati*.
07/08/2025

21/07/25 to **Topic:**, Collaborative and Intreactive Teaching Tool, at *Dy Patil International university, Pune*.
25/07/2025

22/12/23 to **Topic:**, Technology Enhanced Learning, at *FoHSS, AdtU*.
22/12/2023

- 06/02/23 to 12/02/2023 **Topic:**, Online One Week FDP on Data Analysis Using R, at [KKHSOU, Guwahati Assam](#).
- 24/01/23 to 25/01/2023 **Topic:**, Expert Talk on Image Processing, at [KKHSOU, Guwahati Assam](#).
- 16/01/23 to 18/01/2023 **Topic:**, Research Problem Identification, Defination and Formulation, at [KU](#).
- 16/01/23 to 18/01/2023 **Topic:**, AI in Agriculture, at [KU for the GPC, Nagaland](#).
- 08/02/22 to 08/02/2022 **Topic:**, Application of AI in agriculture technology, *online* at [Bodoland University, Kokrajhar](#).
- 17/01/22 to 22/01/2022 **Topic:**, How to get Research grant, *online collaboration* of [E & ICT Academy, IITG, and NERIST](#).
- 20/12/21 to 26/12/2021 **Topic:**, How to get Research grant, *online collaboration* of [E&ICT Academy, IITG, and Nalbari College](#).
- 10/10/21 **Topic:**, AI for the new age environment, at [KKHSOU, Guwahati](#).
- 14/09/21 and 15/09/21 **Topic:**, PhD Course Work on ML and CV, at [KKHSOU, Guwahati](#).
- 16/08/21 **Topic:**, Application of Machine Learning in Agri-informatics, at [RGU \(Central University\), AP under AICTE ATAL FDP](#).
- 14/08/21 to 15/08/21 **Topic:**, Python Programming, at [Assam Computer Center](#).
- 18/11/20 and 11/11/20 **Topic:**, Basics of Python Programming, at [Classtriq](#).
- 15/07/19 **Topic:**, Website Development as Startup, at [CEC, Belsor](#).
- 18/07/18 **Topic:**, Computer Education and its challenges for villagers, at [CEC, Belsor](#).

Awards & Recognition

- 2025 **Associate Editor** Information processing in Agriculture (Elsevier)
- 2025 **Editor** Discover AI (Springer)
- 2025 **Editor** Discover Sustainabil(Springer)
- 2025 **Editor** Editor Scientific Reports (Springer)
- 2023 **Editorial board Member** Journal of Applied and Natural Science (SCOPUS)
- 2022 **Best Poster Award** ALIST -2022, A National Conference Cum Conclave of Bhatnagar Awrdee
- 2022 **Commitment to Excellence Award, 2022** By The Assam Kaziranga University
- 2022 **SIH Winner Award 2022** AICTE SIH 2022 Winner (Mentor)
- 2022 **Editorial board member** Awarded By MC Agriculture & Environmental Sciences
- 2022 **Bentham Science Ambassador** The Chinese Journal of Artificial Intelligence
- 2021-2022 **Reviewer Award** : Awarded by Scientia Iranica (**SCI**) / Artificial Intelligence Reviews (**Springer-SCI Journal**) / IJEECS (**SCOPUS**) /Information Processing in agriculture (**SCOPUS/ESCI**) / Catena (**SCI**) / Computer and Electronics in Agriculture (**SCIE**) / IJ-AI (**SCOPUS**) /Bulletin of electrical engineering and informatics (BEEI) (**SCOPUS**) / Current Science Journal (**SCI**) / Engineering Applications of Artificial Intelligence (**SCI**) / Multimedia Tools and Applications (**SCI / Springer**)/International Journal of Computing and Digital Systems (**SCOPUS**)
- 2020,2019, and 2017 **Mentor of Smart India Hackathon at Online mode, SBEC(Kerala), and MIT(Manglore)** Awarded By AICTE

Institutional Outreach / Association

- 2025-2025 HAMK University of Applied Sciences, Finland - MOU With Assam Skill University and Visited for Study Visit June 2025
- 2024- 2025 University fo North Florida, USA - Published Paper in collaboration
- 2024- 2025 University of Memphis, Memphis, USA - Published Paper in Collaboration
- 2024-2025 Gauhati University, a State university - Theis Evaluator, Joint Conference organsier
- 2024-Till NIT Meghalaya - Supervising PhD Scholar
- 2023-2024 IIT Guwahati and Did MoU activities with KAziranga University such as FDP, etc.
- 2023-2024 RGU, Arunachal Pradesh , a Central university - Theis Evaluator
- 2022-Till KKHSOU - Writing SLM and delivering Talk

Industry Outreach / association

- 2025 to Till SPOC for MoU activity for Value Addition and Campus Program at ASU with IBM India
- 2025 to Till SPOC for MoU activity for Value Addition and Campus Program at ASU with NIELIT India
- 2025 to 2025 SPOC / Signing MoU for Value Addition and Campus Program at ASU with Kareng Technologies
- 2025 SPOC / Signing MoU for Value Addition and Campus Program at ASU with Ujudebug LLP
- 2025 SPOC / Signing MoU for Value Addition and Campus Program at ASU with Xopun Tech Pvt Ltd
- 2023 Mentor/ Advisor/ Co-Founder of Startup [**Somadhan**]
- 2022 SPOC / Signing MoU for Value Addition and Campus Program at KU with IBM India
- 2022 SPOC / Signing MoU for Value Addition and Campus Program at KU with NEILIT India
- 2022 SPOC / Signing MoU for Value Addition and Campus Program at KU with upGrad India
- 2022 Expert/CEO/Advisor for Somadhan Group with Funded by NeatEHUB, AIC, AAU
- 2022 Faculty Advisor, Google Developers Student Club, KU
- 2021 Faculty Advisor/ Mentor, Mantra Associate, Guwahati
- 2016-Till Technical Advisor / Consultant, Kareng Technologies, Guwahati

Lab Setup

- 2025 - till Sub Matter Expert and Establish Laboratory at Assam Skill University - 15 laboratories including programming, AI/ML, etc.
- 2022 Center of Excellence in Data Science and Simulation Lab in collaboration with IFSA at Kaziranga University
- 2016-17 Computer Communication Network Lab at GIMT Guwahati

Stdunt Achievement Under Mentorship

- 2025 3rd Position Winner at ADBU Make-a-thon 2025 by ASU Team
- 2024 AICTE SIH Finalist at AICTE SIH 2024
- 2022 AICTE SIH Winner from KU at Nagpur
- 2022 Grand Finalist-UNSECO India International Hackathon from KU at New Delhi
- 2022 Faculty Mentor, Google Startup BOOT Camp University Edition - at Hyderabad - Only one Team from North East
- 2018 Faculty Mentor, ASTU Hackathon WINNER - at GIMT Guwahati
- 2017-19 Faculty Mentor, AICTE SIH Hackathon - at GIMT Guwahati

Course Material Developed in Institutional LMS

2025-26 AI Assisted Web programming at KKHSOU

2022-23 DAA and Pattern Recognition at Kaziranga University in 2 quadrant Approach

2020-21 DAA, Neural Network, DSA at GIMT Guwahati in 2 quadrant Approach

Referees

Dr. N. C. Talukdar

Vice Chancellor, Assam down town University Former Director, IASST under DST, Govt. of India

Assam down town University University, India

Email: nctalukdar@yahoo.com / vc@adtu.in

Phone: +91-9401886397

Prof. Shikhar Kumar Sarma

Dean, Faculty of Technology

Professor Head, Dept. of Information Technology

Director, Centre for Brahmaputra Studies, Gauhati University

Email: sks001@gmail.com and sks@gauhati.ac.in

Phone: +91-80110 03093