Sruti Das Choudhury

Research Associate Professor
School of Natural Resources &
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EDUCATION

2024-2026	MS	Business Analytics	University of Nebraska-Lincoln, USA
2010-2014	PhD	Computer Science Engineering	University of Warwick, UK
2006-2009	MTech	Computer Science & Application	University of Calcutta, India
2001-2005	BTech	Information Technology	West Bengal University of Technology, India

PROFESSIONAL EXPERIENCE

2023-present Research Associate Professor, School of Natural Resources and School of Computing (courtesy appointment), University of Nebraska-Lincoln, Lincoln, NE, USA.

2016-2023 Research Assistant Professor, School of Natural Resources and School of Computing (courtesy appointment), University of Nebraska-Lincoln, Lincoln, NE, USA.

2016-2018 Instructor, Department of Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, NE, USA.

2015-2016 Postdoctoral Research Associate, Department of Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, NE, USA.

2014-2015 Early Career Research Fellow, Institute of Advanced Study, University of Warwick, Coventry, Warwickshire, UK.

2005-2010 Lecturer, Calcutta Institute of Engineering and Management, Affiliated to West Bengal University of Technology, Kolkata, West Bengal, India.

2006-2008 Interim Head, Bachelor of Computer Application Program, Nopany Institute of Management Studies, Affiliated to West Bengal University of Technology, Kolkata, West Bengal, India.

VISITING/ADVISORY APPOINTMENTS

Visiting Scientist/International Relations Affairs, Royal University of Bhutan, March-April 2026.

Advisory Board Member, Terraform Industries (TFI), San Francisco, California, USA, April 2023-May 2024.

Department of Life Sciences, Presidency University, India, October-November 2024.

A. K. Choudhury School of Information Technology, University of Calcutta, India, December 2023.

Institute of Engineering & Management, Kolkata, India, July-August 2023.

School of Computing, University of Glasgow, Glasgow, UK, June 2023.

INRIA Grenoble Rhône-Alpes, team MOSAIC, Laboratoire Reproduction et Développement des Plantes, University of Lyon, France, October 2020.

Department of Computer Science & Engineering, Advanced Computing and Microelectronics Unit, Indian Statistical Institute, India, November-December 2017.

School of Engineering, University of Warwick, UK, September-October 2017.

A. K. Choudhury School of Information Technology, University of Calcutta, India, May 2017.

Biomedical System Engineering Laboratory, University of Calcutta, India, June 2016.

A. K. Choudhury School of Information Technology, University of Calcutta, India, June 2014.

HONORS AND AWARDS

1. Holling Family Faculty Awards for Inclusive Excellence in Teaching and Learning, University of Nebraska-Lincoln, 2024.
2. Teaching grant (5000 USD) from the office of Vice Chancellor for conducting spring pre-session course at the University of Nebraska-Lincoln, 2023.
3. Poster Award, 7th International Plant Phenotyping Symposium (IPPS7), Wageningen, Netherlands, 2022.
4. Teaching grant (5000 USD) from the office of Vice Chancellor for conducting spring pre-session course at the University of Nebraska-Lincoln, 2022.
5. Teaching grant (3500 USD) from the office of Vice Chancellor for developing spring pre-session course at the University of Nebraska-Lincoln, 2021.
6. Honorable Mention, Outstanding Postdoctoral Scholar, University of Nebraska-Lincoln, 2017.
7. Warwick Institute of Advanced Study Early Career Research Fellowship, University of Warwick, 2014.
8. EPSRC fellowship for interdisciplinary research project entitled “Smart Surveillance System: Multimodal Biometrics for Security and Law Enforcement”, 2013.
9. Warwick Postgraduate Research Scholarship and Engineering Bursary, University of Warwick, 2010.
10. Gold medal for securing first position in Master of Technology, University of Calcutta, 2009.

RESEARCH

RESEARCH INTEREST

Computer vision, plant phenotyping analysis, explainable artificial intelligence for precision agriculture, pattern recognition, multimodal biometrics, information security and medical image analysis.

REFEREED JOURNAL PUBLICATIONS

Published

1. Ivon Acosta Ramirez, Nicole M. Iverson**, S. Das Choudhury,** Programming-Assisted Imaging of Cellular Nitric Oxide Efflux Gradients and Directionality via Carbon Nanotube Sensors, Small Science, February 2025, doi: https://doi.org/10.1002/smsc.202400493

2. **S. Das Choudhury**, C. R. Guadagno, S. Bashyam, A. Samal, B.E. Ewers, T. Awada, Stress Detection and Phenotype Computation using AutoFluorescence Image Sequences, Frontiers in Plant Science, 14(2024), doi: https://doi.org/10.3389/fpls.2024.1353110

3. S. Srivastava1, N. Kumar, A. Malakar, **S. Das Choudhury**, C. Ray, T. Roy, A Machine Learning-based Probabilistic Approach for Irrigation Scheduling, Water Resource Management, 38(2024), pp. 1639-1653.

4. C. K. Tuggle, J. L. Clarke, B. M. Murdoch, E. Lyons, N. M. Scott, B. Beneš, J. D. Campbell, H. Chung, C. L. Daigle, **S. Das Choudhury**, J. C. M. Dekkers, J. R. R. Dórea, D. S. Ertl, M. Feldman, B. O. Fragomeni, J. E. Fulton, C. R. Guadagno, D. E. Hagen, A. S. Hess, L. M. Kramer, C. J. Lawrence-Dill, A. E. Lipka, T. Lübberstedt, F. M. McCarthy, P. S. Schnable, Current Challenges and Future of Agricultural Genomes to Phenomes in the USA, Genome Biology, 25(8), January 2024.

5. R. Quiñones, F. Munoz-Arriola**, S. Das Choudhury**, A. Samal, OSC-CO2: Coattention and Cosegmentation Framework for Plant State Change with Multiple Features, Frontiers in Plant Science, 14: doi: 10.3389/fpls.2023.1211409, October 2023.

6. **S. Das Choudhury,** S. Saha, A. Samal, A. Mazis, T. Awada, Drought Stress Prediction and Propagation using Time Series Modeling on Multimodal Plant Image Sequences, Frontiers in Plant Science, 14: 1003150, February 2023.

7. SA. Das, **S. Das Choudhury**, A. K. Das, A. Samal, T. Awada, EmergeNet: A Novel Deep-Learning based Ensemble Segmentation Model for Emergence Timing Detection of Coleoptile, Frontiers in Plant Science, 14(2023), February 2023.

8. **S. Das Choudhury**, S. Guha, A. Das, A. K. Das, A. Samal, T. Awada, FlowerNetPheno: Automated Flower Detection from Multi-view Image Sequences using Deep Neural Networks for Temporal Plant Phenotyping Analysis, Remote Sensing, 14(24), 6252, 2022.

9. X. Fan, R. Zhou, T. Tjahjadi, **S. Das Choudhury**, Q. Ye, A Segmentation-Guided Deep Learning Framework for Leaf Counting, Frontiers in Plant Science, 13:844522, 2022.

10. R. Quiñones, F. Munoz-Arriola, **S. Das Choudhury**, A. Samal, Multi-feature Data Repository Development and Analytics for Image Co-segmentation in High Throughput Plant Phenotyping, Plos One, 2021. http://doi.org//10.1371/journal.pone.0257001

11. L. Zhou, X. Fan, T. Tjahjadi, **S. Das Choudhury**, Discriminative Attention-augmented Feature Learning for Facial Expression Recognition in the Wild, Neural Computing and Applications, 34, 2022, 925-936.

12. S. Bashyam**, S. Das Choudhury**, A. Samal, T. Awada, Visual Growth Tracking for Automated Leaf Stage Monitoring based on Image Sequence Analysis, Remote Sensing, 13(5), 2021.

13. **S. Das Choudhury,** S. Maturu, V. Stoerger, A. Samal, T. Awada, Leveraging Image Analysis to Compute 3D Plant Phenotypes based on Voxel-Grid Plant Reconstruction, Frontiers in Plant Science, 11: 521431, 2020.

14. SA. Mazis, **S. Das Choudhury,** P. B. Morgan, V. Stoerger, J. Hiller, Y. Ge, T. Awada, Application of High-Throughput Plant Phenotyping in Assessing Biophysical Traits and Drought Response of Two Oak Species under Controlled Environment, Forest Ecology and Management, 465(118101), 2020.
15. **S. Das Choudhury,** A. Samal, T. Awada, Leveraging Image Analysis for Plant Phenotyping, Frontiers in Plant Science, 10(508), 2019.
16. X. Fan, Q. Ye, X. Yang, **S. Das Choudhury**, Robust Blood Pressure Estimation using a RGB Camera, Journal of Ambient Intelligence and Humanized Computing, 2018. https://doi.org/10.1007/s12652-018-1026-6.
17. D. Jarquin, R. Howard, A. Xavier, **S. Das Choudhury**, Increasing Predictive Ability by Modeling Interactions between Environments, Genotype and Canopy Coverage Image Data for Soybeans, Agronomy, 8 (4), 2018.
18. **S. Das Choudhury,** Jin-Gang Yu, A. Samal, Leaf Recognition using Contour Unwrapping and Apex Alignment with Tuned Random Subspace Method, Biosystems Engineering, 170, 2018, 72-84.
19. **S. Das Choudhury,** S. Bashyam, Y. Qui, A. Samal, T. Awada, Holistic and Component Plant Phenotyping using Visible Light Image Sequence, Plant Methods, 14:35, 2018.
20. **S. Das Choudhury**, T. Tjahjadi, Clothing and Carrying Condition Invariant Gait Recognition using Rotation Forest, Pattern Recognition Letters, 80, 2016, 1–7.
21. **S. Das Choudhury**, T. Tjahjadi, Robust View-Invariant Multiscale Gait Recognition, Pattern Recognition, 48, 2014, 798–811.
22. **S. Das Choudhury**, T. Tjahjadi, Gait Recognition Based on Shape and Motion Analysis of Silhouette Contour, Computer Vision and Image Understanding, 117, 2013, 1770-1785.
23. **S. Das Choudhury**, T. Tjahjadi, Silhouette-Based Gait Recognition using Procrustes Shape Analysis and Elliptic Fourier Descriptors, Pattern Recognition, 45, 2012, 3414-3426.

Submitted

1. S. Bashyam, **S. Das Choudhury**, A. Samal, iPlantSeg+ tool: An Interactive Segmentation and Phenotype Computation Tool for Plants and Animals, Plant Methods, November 2023.
2. Ivon Acosta-Ramirez; Ferhat Sadak; Sruti Das Choudhury; James Thomson; Salome Perez-Rosero; Portia Plange; Sofia Morales-Mendivelso, Nicole Iverson, Development of a Deep Neural Network Model for Simultaneous Analysis of Extracellular Analyte Gradients for a Population of Cells, Sensors and Actuators B: Chemical, June 2025.
3. **S. Das Choudhury**, R. Datta, S. Baitalik, Toward Transparent Crop Recommendation: Explainable AI with Data Analytics and Narrative Visualization, International Conference on Data Management, Analytics, and Innovation (ICDMAI), January 2026.

In preparation

1. MD Tausif Mallick, Saptarshi Banerjee, Jon Turdiev, Sruti Das Choudhury, Himadri Nath Saha and Amlan Chakrabarti, An Explainable AI-driven IOT Architecture for Scalable Real-time Disease and Pest Surveillance in Mustard crops, Journal of Smart Agriculture, August 2025.

2. S. Saha, M. Abbasi, S. Das Choudhury, HyperProbe Insight: An Interactive Tool for Exploration of Hyperspectral Image Sequences, IEEE Transactions on Visualization and Computer Graphics, to be submitted by September 2025.
3. B. Biswas, **S. Das Choudhury,** A. Samal**,** A. Chakrabarti**,** Multi-view Sequential Cosegmentation for Plant Phenotyping Using Novel Co-attention with Divergence Measure, IEEE Transactions on Neural Networks and Learning Systems, to be submitted by December 2025.
4. **S. Das Choudhury,** Sanjan Baitalik**,** Rajashik Datta, Explainable AI for Precision Agriculture: A Data-Driven Approach to Crop Recommendation, International Conference on Data Management, Analytics and Innovation (ICDMAI), to be submitted by July 2025.

PEER REVIEWED CONFERENCE/WORKSHOP PUBLICATIONS

1. K._Chattopadhyay, D. Bhattacharjee, **S. Das Choudhury**, An Ensemble Model to Estimate SPAD Values from Rice Leaf Images, 6th International Conference on Frontiers in Computing and Systems, September 2025.
2. K. J. Bathke, Y. Ge, **S. Das Choudhury**, J. D. Luck, Enhancing Nutrient-related Stress Detection: High Throughput Phenotyping and Image Analysis for Improved Precision, 16th International Conference on Precision Agriculture, Manhatton, Kansas, USA, July 2024.
3. K. T. Joseph, K. Muvva, H. Mwunguzi, A. Haake, C. Liew, A. Balabantaray, S. Behera, A. Kalra, K. K. Vattiam Srikanth, S. Pitla and **S. Das Choudhury**, CottonHusker: Deep Learning Enabled Cotton Picking Robot for Smart Agriculture, International Conference on Systems and Technology for Smart Agriculture, Springer Nature Publishing, ISBN: 978-981-97-5156-3 (ICSTA), Kolkata, India, December 2023.
4. **S. Das Choudhury,** Time Series Modeling for Bridging Phenotype-Genotype Gap and Phenotypic Prediction using Neural Networks, European Conference on Computer Vision Workshop on Computer Vision Problems in Plant Phenotyping (CVPPP), Glasgow, UK, August 2020.
5. A. Paul, S. Ghosh, A. K. Das, S. Goswami, **S. Das Choudhury**, S. Sen, A review on agricultural advancement based on computer vision and machine learning, Emerging Technology in Modelling and Graphics: Proceedings of IEM Graph, 2018.
6. **S. Das Choudhury**, S. Goswami, S. Bashyam, A. Samal, T. Awada, Automated Stem Angle Determination for Temporal Plant Phenotyping Analysis, ICCV workshop on Computer Vision Problems in Plant Phenotyping (CVPPP), pp. 2022-2029, Venice, Italy, October 2017.
7. **S. Das Choudhury**, V. Stoerger, A. Samal, J. Schanable, Z. Liang, J-G Yu, Automated Vegetative Stage Phenotyping Analysis of Maize Plants using Visible Light Images, KDD workshop on Data Science for Food, Energy and Water (DS-FEW), San Francisco, California, USA, August 2016.
8. **S. Das Choudhury**, Y. Guan, C.-T. Li, Gait Recognition using Low Spatial and Temporal Resolution Videos, International Workshop on Biometrics and Forensics (IWBF), pp. 1-6, Valletta, Malta, March 2014.
9. Y. Guan, C.-T. Li, **S. Das Choudhury**, Robust Gait Recognition from Extremely Low Frame-Rate Videos, International Workshop on Biometrics and Forensics (IWBF), pp. 1-4, Lisbon, Portugal, April 2013.

BOOK

Intelligent Image Analysis for Plant Phenotyping, CRC Press, Taylor and Francis Group (ISBN: 978-1-138-03855-4).
Editors: A. Samal and **S. Das Choudhury.**
Publication date: October 2020.
Place of publication: Boca Raton, Florida, USA.

Book Chapters

1. A. Ghatak, A. Chakraborty, B. Swarnakar, R. Banerjee, A. K. Das, and **S. Das Choudhury**, Toward an Ethical Framework for Generative AI: Balancing Innovation, Privacy, and Accountability, Designing with Conscience: Ethics for the AI era, Nova Science Publishers, in press, 2025.

2. **S. Das Choudhury**, U. Banerjee, R. Karmakar, H. N. Saha, Implementation of Hybrid Computational Intelligence for Plant Phenotyping, *Intelligent Systems: Emerging Trends and Challenges in Deep Neuro Fuzzy Models and Explainable Artificial Intelligence*, CRC press, Taylor and Francis Group, in press, 2025.
3. **S. Das Choudhury**, A. Samal, Structural high-throughput plant phenotyping based on image sequence analysis, *Intelligent Image Analysis for Plant Phenotyping*, CRC Press, Taylor and Francis Group, pp. 93-117, 2020.
4. **S. Das Choudhury**, S. Goswami, A. Chakrabarti, Time series and Eigen value based analysis of plant phenotypes, *Intelligent Image Analysis for Plant Phenotyping*, CRC Press, Taylor and Francis Group, pp. 155-173, 2020.
5. **S. Das Choudhury**, Segmentation techniques and challenges in plant phenotyping, *Intelligent Image Analysis for Plant Phenotyping*, CRC Press, Taylor and Francis Group, pp. 69-91, 2020.
6. J. D. Jarquin, R. Howard, A. Xavier, **S. Das Choudhury**, Predicting yield by modelling interactions between canopy coverage image data, genotypic and environmental information for soybeans, *Intelligent Image Analysis for Plant Phenotyping*, CRC Press, Taylor and Francis Group, pp. 267-286, 2020.
7. A. Samal, **S. Das Choudhury**, T. Awada, Image-based plant phenotyping: Opportunities and challenges, *Intelligent Image Analysis for Plant Phenotyping*, CRC Press, Taylor and Francis Group, pp. 3-23, 2020.

DATASET PUBLICATION

1. **S. Das Choudhury**, C. Rosaria Guadagno,, University of Nebraska-Lincoln and University of Wyoming AutoFluorescence Dataset (UNL-UW-AFD) to facilitate stress detection and phenotype computation, and also identify genetic variation within *Brassica rapa* types under drought using autofluorescence imaging. https://plantvision.unl.edu/dataset

2. **S. Das Choudhury,** UNL-Maize Emergence Dataset (UNL-MED) to facilitate algorithm development and uniform comparison in detecting timing of coleoptile emergence from the soil, 2022. https://plantvision.unl.edu/dataset

3. R. Quinones, F. Munoz Arriola, **S. Das Choudhury**, A. Samal, Cosegmentation for Plant Phenotyping (CosegPP) to promote multimodal cosegmentation research in agriculture and natural resources, 2021. https://zenodo.org/record/5117176#.Yrn6QHbMI2w

4. **S. Das Choudhury**, FlowerPheno Dataset to promote research in flower phenotyping analysis using deep neural networks, 2021. https://plantvision.unl.edu/dataset

5. **S. Das Choudhury**, Phenoseries Dataset to foster time series modeling of phenotypic prediction and phenotype-genotype mapping, 2020. https://plantvision.unl.edu/dataset

6. **S. Das Choudhury**, UNL-3D Plant Phenotyping Dataset (UNL-3DPPD) to stimulate 3D plant phenotyping research, 2018. https://plantvision.unl.edu/dataset

7. **S. Das Choudhury**, UNL-Component Plant Phenotyping Dataset (UNL-CPPD) with original images, ground-truths and annotated images for research advancements in component plant phenotyping of cereal crops, 2017. https://plantvision.unl.edu/dataset

8. **S. Das Choudhury**, Panicoid Phenomap-1 Dataset for research advancements in the time series analysis of holistic and component phenotypes, 2016. https://plantvision.unl.edu/dataset

SOFTWARE PUBLICATION

9. **S. Das Choudhury,** S. Saha, M. Abbasi, HyperProbe Insight: An Interactive Tool for the Exploration of Hyperspectral Image Sequences (Python, Streamlit), 2024.
10. **S. Das Choudhury**, Plant Stress Detection and Quantification Application (Python, Streamlit), 2024.
11. **S. Das Choudhury**, S. Bashyam, iPlantSeg+ tool (MATLAB) 2022. https://plantvision.unl.edu/software

12. **S. Das Choudhury**, Leaf Detection and Component Phenotype Computation Software (MATLAB), 2018. https://plantvision.unl.edu/software

13. **S. Das Choudhury,** 2D Plant Phenotyping Tool (OpenCV, C++), 2017. https://plantvision.unl.edu/software

RESEARCH GRANTS

Funded:

1. Transitioning from a Linear to a Circular Bioeconomy Opportunities within the Beef System, University of Nebraska Collaboration Initiative Grant Application, $149,923, 2023-2025, Role: Co-Principal Investigator.

2. Response of a Man-Made Forest to the Catastrophic Wildfires of 2022: Recovery of the Sandhills Halsey Nebraska National Forest, McIntire Stennis Forestry Funds, USDA Capacity funding, $375,000, 2023-2027. Role: Co-Principal Investigator.

3. DSFAS: EasyAgro – Smart Agriculture Artificial Intelligent Predictive Decision Support Tool for Creating Resilient and Sustainable Agroecosystem, USDA-NIFA-AFRI, $650,000, 2023-2027. Role: Co-Principal Investigator.

4. Event-Based Plant Phenotyping using Deep Learning: Algorithms, Tools and Datasets, Agricultural Genome to Phenome Initiative (AG2PI) Seed Grants, $50,000, 2021-2022, Role: Principal Investigator.

5. High Throughput Plant Phenotyping to Characterize Corn Growth Dynamics, Water and Nitrogen Use Efficiency under Contrasting Environments and across Temporal and Spatial Scales, Nebraska Agricultural Experiment Station (NEAES), $250,000, 2021-2026. Role: Co-Principal Investigator.

6. AgroAI: The Institute for Advancing Agriculture and Food in a Changing World Using AI, University of Minnesota (Lead Institute), National Science Foundation (NSF), $3,555,327, 2020-2025. Role: Co-Principal Investigator (finalist, not funded).

7. Forest Density and Management Practices Effects on Soil and Vegetation Resilience in Nebraska, McIntire Stennis Forest Research Funds, USDA, $250,000, 2018-2021. Role: Co-Principal Investigator.

8. Development and Dissemination of a Benchmark Dataset to stimulate 3D Image-based Plant Phenotyping Research. Midwest Big Data Spoke project in UAS, Plant Sciences and Education, $5,000, 2017. Role: Principal Investigator.

9. A High Throughput Phenotyping Reference Dataset for GWAS in Sorghum, University of Nebraska-Lincoln, USA, $20,000, 2016. Role: Key Personnel.

10. Smart Surveillance System: Multimodal Biometrics for Security and Law Enforcement, Engineering and Physical Sciences Research Council, UK, £1500, 2013. Role: Principal Investigator.

Not funded:

11. CERCA - Circular Economy for Resilient Climate and Agriculture, UNL Grand Challenge Catalyst Competition, 650,000 USD, Role: Co-Principal Investigator.

12. Yield Monitoring and Prediction in Barren Land with Automated Weed Controlling through Real Time Analysis of Images captured by drone under the Agriculture, AI4ICPS Call for Translational Research in the field of Artificial Intelligence, Role: Co-Principal Investigator.

13. FruitPhenoNet: Automated Fruit Detection based on Analyzing Time-series Visible Light and Hyperspectral Imagery for 2D and 3D Temporal Fruit Phenotyping using Deep Neural Networks, IDEAS-INSTITUTE OF DATA ENGINEERING, ANALYTICS AND SCIENCE FOUNDATION, Technology Innovation Hub (IDEAS-TIH), ₹ 28,40,000, Role: Co-Principal Investigator.

INVITED TALKS

Computer Vision and Artificial Intelligence for Climate-resilient Smart Agriculture, Scottish Church College, Kolkata India, January 2024.

From Bytes to Brilliance: Navigating the Evolutionary Odyssey of Artificial Intelligence, Jagadish Chandra Bose College, Kolkata, India, December 2023.

Future of Temporal Plant Phenotyping based on AI-driven Time Series Modeling, Lightning talk at AG2PI & NIFA workshop “Thinking Big: Visualizing the Future of AG2PI”, Iowa, USA, September 2022.

Recent Advances of Artificial Intelligence in Multimodal Plant Phenotyping Analysis, webinar at Open Data Science Conference, Kolkata chapter, India, July 2020.

Next Generation Plant Phenotyping: Machine Learning and Deep Learning Approaches, Plant Phenotyping and Imaging Research Centre Symposium, Global Institute for Food Security, Saskatoon, Canada, October 2018.

Multimodal and Multiview Plant Phenotyping Analysis using Image Sequences, University of North Carolina, Greensboro, USA, March 2018.

Image-based Plant Phenotyping Analysis, IEEE Young Professionals, Kolkata Chapter, Jadavpur University, India, June 2017.

Multiscale Gait Analysis for Human Identification, IEEE Young Professionals, Kolkata Chapter, Jadavpur University, India, April 2015.

Human Identification based on Gait Analysis, A. K. Choudhury School of Information Technology, University of Calcutta, India, June 2014.

WORKSHOP/ TUTORIAL AND TRAINING CONDUCTANCE/KEYNOTE SPEAKER

Applications of Artificial Intelligence and Computer Vision in Healthcare and Agriculture-A Practical Approach, One-week Faculty Development Program on Artificial Intelligence and Emerging Trends in Healthcare and Agro Business Segment, Neotia University, Kolkata, India, June 2025.

Tutorial organizer, HyperProbe Insight: An Interactive Tool for Exploration of Hyperspectral Image Sequences, International Conference on Data Management, Analytics, and Innovation (ICDMAI), January, 2025.

Keynote speaker, International Seminar on Emerging Technological Trends in Teacher Education: Preparing for Future, Institute of Education for Women, Kolkata, India, December, 19-20, 2024.

Keynote speaker, International Seminar on AI-Driven Business Application Using IoT with Predictive Data Modeling Techniques in BioTech and Agro-based Research, Neotia University, Kolkata, India, November 08, 2024.

Workshop organizer, Development of Real-time Plant Stress Detection and Quantification Application using Hugging Face, Plant Biology, Hawaii, June 2024.

Keynote speaker, International Conference on Systems and Technology for Smart Agriculture, Kolkata, India, December, 19-20, 2023.

Keynote speaker, International Seminar on Usefulness of AI in daily life: a closer insight, Surendranath College, Kolkata, India, December 21, 2023.

Speaker, Segmentation Techniques and Challenges in Plant Phenotyping: Introducing the iPlantSeg+ Tool workshop, Plant Biology, August 2023.

Keynote speaker, Recent Advances in Computer Vision and Artificial Intelligence for Multimodal and Multiview Plant Phenotyping Analysis, 3rd International Conference on Data Science and Applications (ICDSA 2022), March 2022.

Speaker, FlowerNetPheno: Detection of Flowers based on Spatio-Temporal Image Sequence Analysis using Deep Learning Techniques for Event-based Plant Phenotyping workshop, Plant Biology, July 2021.

Speaker, Emerging Technologies in Agriculture and Allied Sectors for Cooperatives, organized by NEDAC Training Centre, Bangkok (NTCB) & Laxmanrao Inamdar National Academy for Cooperative Research & Development (LINAC), NCDC, June 2021.

TRAVEL GRANTS

Plant Biology 2019 organized by American Society of Plant Biologists (ASPB), San Jose, California, 2019.

Phenome 2019 conference, Tucson, Arizona, USA, 2019.

Phenome 2018 conference, Tucson, Arizona, USA, 2018.

4th International Plant Phenotyping Symposium, CIMMYT, Mexico, 2016.

AusPheno2016 -5th International Controlled Environment Conference, Canberra, Australia, 2016.

Digital Agriculture Spoke All-Hands Meeting, Iowa State University, USA, 2016.

Communication and Impact for Female Postdoctoral Researchers, University of Warwick, UK, 2014.

Collaborative Research with the University of Calcutta, University of Warwick, UK, 2014.

Endowment Scholarship for PhD study, University of Calcutta, India, 2010.

RESEARCH PRESENTATIONS

Time Series Modeling for Drought Stress Propagation in Plants using Hyperspectral Imagery, North American Plant Phenotyping Network (NAPPN) Annual Conference, Lightning talk, St. Louis, Missouri, USA, February 2023.

Event-Based Plant Phenotyping using Deep Learning: Algorithms, Tools and Datasets, AG2PI & NIFA workshop, Thinking Big: Visualizing the Future of AG2PI, Lightning talk, Ames, Iowa, USA, September 2022.

Event-based Plant Phenotyping based on Deep Neural Networks, North American Plant Phenotyping Network Annual Conference, Lightning talk, Athens, Georgia, USA, February 2022.

Deep Learning for Early Detection and Temporal Propagation of Drought Stress based on Hyperspectral Imagery: Dataset, Algorithm and Analysis, Phenome Conference, Tucson, Arizona, USA, February 2019.

Exploration of Machine Learning Techniques for Determination of Drought Stress Index and Characterization of Temporal Propagation of Drought Stress based on Hyperspectral Imagery, 5th International Plant Phenotyping Symposium, Adelaide, Australia, October 2018.

3D Plant Phenotyping Research-Dataset, Algorithm and Analysis, Midwest Big Data Hub Digital Agriculture All Hands Meeting/UAS Workshop, University of Nebraska-Lincoln, Lincoln, Nebraska, USA, September 2018.

Intelligent Plant Phenotyping Analysis using Multimodal and Multi-view Image Sequences, UNL Plant Phenomics Symposium, University of Nebraska-Lincoln, Lincoln, Nebraska, USA, April 2018.

Automated Stem Angle Determination for Temporal Plant Phenotyping Analysis, ICCV workshop on Computer Vision Problems in Plant Phenotyping (CVPPP), Venice, Italy, October 2017.

Holistic and Component-based Dynamic Vegetative-Stage Plant Phenotyping Analysis, 4th International Plant Phenotyping Symposium, CIMMYT, Mexico City, Mexico, December 2016.

Holistic and Component-based Automated Plant Phenotyping Analysis using Visible-Light Images, AusPheno-5th International Controlled Environment Conference, Canberra, Australia, September 2016.

Automated Phenotyping Analysis of Maize Plants using Visible Light Images, KDD workshop on Data Science for Food, Energy and Water (DS-FEW), San Francisco, California, USA, August 2016.

POSTER PRESENTATIONS

Sruti Das Choudhury, Sinjoy Saha, Anastasios Mazis, Ashok Samal, Tala Awada, HyperStressPropagateNet: Time Series Modeling for Drought Stress Propagation in Plants using Hyperspectral Imagery, North American Plant Phenotyping Network (NAPPN) Annual Conference, St. Louis, Missouri, February 2023.

Sruti Das Choudhury, Vincent Stoerger, Xiijan Fan, Ashok Samal, FruitPhenoNet: Automated Fruit Detection based on Analyzing Time-series Visible Light and Hyperspectral Imagery for Temporal Fruit Phenotyping using Deep Neural Networks, 7th International Plant Phenotyping Symposium (IPPS7), Wageningen, Netherlands, September 2022.

Sruti Das Choudhury, Ashok Samal, Tala Awada, FlowerPhenoNet: Automated Flower Detection from Multi-view Image Sequences using Deep Neural Networks for 2D and 3D Temporal Plant Phenotyping Analysis, 7th International Plant Phenotyping Symposium (IPPS7), Wageningen, Netherlands, September 2022.

Sruti Das Choudhury, Suraj Gampa, Tala Awada, Ashok Samal, Deep Learning for Early Detection and Temporal Propagation of Drought Stress in Cotton Plants, 5th International Plant Phenotyping Symposium, Adelaide, Australia, October 2018.

Sruti Das Choudhury, Srikanth Maturu, Vincent Stoerger, Ashok Samal, Tala Awada, 3D Image-based Plant Phenotyping Research: Dataset, Algorithm and Analysis, NSF Big Data Hub Digital Agriculture Community Meeting, University of Nebraska-Lincoln, Lincoln, NE, USA, September 2018.

Sruti Das Choudhury, Srinidhi Bashyam, Ashok Samal, Tala Awada, Vincent Stoerger, Automated Leaf Tracking using Multi-view Image Sequences of Maize Plants for Leaf-growth Monitoring, Annual Geophysics Union Conference, New Orleans, Louisiana, USA, December 2017.

Jane Asiyo Okalebo, **Sruti Das Choudhury**, Tala Awada, Andrew Suyker, David LeBauer, Maria Newcomb, Richard Ward, Application of Near-Surface Remote Sensing and computer algorithms in evaluating impacts of agroecosystem management on Zea mays (corn) phenological development in the Platte River – High Plains Aquifer Long Term Agroecosystem Research Network field sites, Annual Geophysics Union Conference, New Orleans, Louisiana, USA, December 2017.

Sruti Das Choudhury, Ashok Samal, Image-based Automated Vegetative-Stage Dynamic Phenotyping Analysis of Maize Plants, AusPheno-5th International Controlled Environment Conference, Canberra, Australia, September 2016.

Sruti Das Choudhury, Chintan Mondal, Debjyoti Bagchi, Face recognition based household security system for the elderly citizens living alone, 3rd International Doctoral Symposium on Applied Computation and Security Systems, University of Calcutta, India, August 2016.

Zhikai Liang, Srinidhi Bashyam, Ashok Samal, **Sruti Das Choudhury**, Geng Bai, Yufeng Ge, Oscar Rodriguez, James C. Schnable, Computer Vision Based Phenotyping of Panicoid Crops, North American Plant Phenotyping Network Inaugural Convening Event, Purdue University, USA, August 2016.

Sruti Das Choudhury, Ashok Samal, Leaf Recognition using Contour Unwrapping and Apex Alignment with Tuned Random Subspace Method, Digital Agriculture Spoke All-Hands Meeting, Iowa State University, Ames, Iowa, USA, May 2016.

Sruti Das Choudhury, Ashok Samal, Automatic Leaf Recognition using Generalized Procrustes Analysis, Plant Science Symposium- Plant Phenomics: from pixels to traits, Nebraska Innovation Campus Conference Center, University of Nebraska-Lincoln, Lincoln, NE, USA, May 2015.

Sruti Das Choudhury, Tardi Tjahjadi, Gait recognition for Human Identification, Open Day at the University of Warwick, UK, September 2012.

TEACHING

TEACHING PREPARATION

Introduction to Academic and Professional Practices, Teaching qualification program, University of Warwick, UK, August 2012-March 2014.

POSTGRADUATE COURSE DEVELOPMENT

Artificial Intelligence, Computer Vision, and Data Analytics for Agriculture and Natural Resources (NRES 416/816 BSEN 461/861), University of Nebraska-Lincoln, Lincoln, NE, USA.

Practical Foundations on Computer Vision, Data Analytics and Generative Artificial Intelligence for Climate Resilience, regular course 2025, School of Natural Resources, University of Nebraska-Lincoln, Lincoln, NE, USA.

Computer Vision and Machine Learning with Real-Life Case Studies: Matlab & Python Programming with Ultimate ChatGPT Guide, spring pre-session 2024, School of Natural Resources, University of Nebraska-Lincoln, NE, USA.

Recent Advances of Computer Vision and Artificial Intelligence in Agriculture, fall 2020, School of Natural Resources, University of Nebraska-Lincoln, Lincoln, NE, USA.

Computer Vision Techniques for Plant Phenotyping, Seminar course, spring 2018, School of Computing, University of Nebraska-Lincoln, Lincoln, NE, USA.

EXPERIENCE

2019-present Instructor, School of Natural Resources, University of Nebraska-Lincoln, USA. Course taught: Computer Vision and Artificial Intelligence Applications in Agriculture (NRES 498/898).

2016-2018 Instructor, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA. Courses taught: Computer Vision (CSCE 473/873), Computer Vision Techniques for Plant Phenotyping (CSCE 990).

May 2017 Instructor, A. K. Choudhury School of Information Technology, University of Calcutta, India. Course taught: Computer Vision Basics.

2013-2015 Tutor, First Tutors, Coventry, UK. Course taught: Mathematics (A level), Computer Studies (GCSE) and Networking (MSc).

May 2014 Tutor, Taiwan Summer School, University of Warwick, UK, Course taught: Basics of Image Analysis.

2010-2013 Graduate Teaching Assistant, School of Engineering, University of Warwick, UK.

2006-2008 Interim Head, Bachelor of Computer Application Program, Nopany Institute of Management Studies, Affiliated to West Bengal University of Technology, India. Courses taught: Web Technology, Software Engineering, Multimedia, Database Management Systems. Other activities included senior projects supervision.

STUDENT SUPERVISION

Research Trainee:

Sanjan Baitalik, Department of Computer Science and Engineering, Institute of Engineering and Management, India, June 2025-June 2026.

Rajashik Datta, Department of Computer Science and Engineering, Institute of Engineering and Management, India, June 2025-June 2026.

Utsho Banerjee, Data analytics and visualization for plant phenotyping, Department of Computer Science Engineering, Institute of Engineering and Management, India, June 2024-December 2025.

Rajarshi Karmakar, Data analytics and visualization for plant phenotyping, Department of Computer Science Engineering, University of Engineering and Management, India, June 2024-December 2025.

Mujahir Hussain Abbasi, Time series analysis of hyperspectral images for applications in agriculture, Department of Computer Science Engineering, University of Las Angeles, USA, March 13, 2024 - June 13, 2024.

Sinjoy Saha, Image-based plant phenotyping analysis based on deep neural networks for stress prediction, Institute of Radio Physics and Electronics, University of Calcutta, India, June 1, 2021- May 31, 2022.

Yves Cedric Tamwo Noubissi, Robotic solutions in smart agricultural systems, Department of Mechanical Engineering, University of Nebraska-Lincoln, Lincoln, NE, USA, November 08, 2022 – April 30, 2023.

Doctor of Philosophy:

Srinidhi Bashyam, University of Nebraska-Lincoln, USA, 2024-2028. Advisor.

Ivon Acosta Ramirez, University of Nebraska-Lincoln, USA, 2023-2025. Committee member.

Rubi Quinones, Multimodal co-segmentation for plant phenotyping, PhD thesis, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2016-2022. Co-chair.

Undergraduate Research:

Katie J. Bathke, Nutrient stress analysis for precision agriculture, final year project for Bachelor of Science, University of Nebraska-Lincoln, USA, 2022-present. Committee member.

Charles Floeder, Hyperspectral image analysis using computer vision for plant phenotyping, Senior Computer Science Major Project, University of Nebraska-Lincoln, USA, 2022-2023. Co-advisor.

Masters by Thesis:

Rengie Gui, Machine learning techniques to quantify and demonstrate temporal stress propagation in plants using fluorescent image analysis, MS project, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2019. Co-advisor.

Suraj Gampa, A data-driven approach for detecting stress in plants using hyperspectral imagery, MS thesis, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2017-2018. Co-advisor.

Bachelor of Technology:

Amrita Bhattacharya, Online Examination System using J2EE architecture, Major project, Bachelor of Technology, Department of Information Technology, Calcutta Institute of Engineering and Management, West Bengal, India. 2010. Advisor.

Ayan Pal, Online Shopping System using J2EE architecture, Major project, Bachelor of Technology, Department of Information Technology, Calcutta Institute of Engineering and Management, West Bengal, India. 2010. Advisor.

MENTORING

Anastasios Mazis, Structural phenotyping analysis of tree species, School of Natural Resources, University of Nebraska-Lincoln, USA, 2018-2020.

Abriti Pal, Application of Deep Learning in Plant Phenotyping, MTech in Computer Science and Engineering, University of Calcutta, India. 2018 - 2019.

Poupack Baghery, Flowering time detection in cereal crops based on time-lapse image sequence analysis, Department of Electrical Engineering, University of Nebraska-Lincoln, USA, 2018-2019.

Srikanth Maturu, 3D image-based plant phenotyping analysis, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2017-2018.

Bhushit Agarwal, Detection of plant emergence based on spatio-temporal image sequence analysis, MS Thesis, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2015-2016.

Srinidhi Bashyam, Detection of plant architecture and component phenotyping based on time-lapse image analysis, MS Thesis, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2015-2016.

Rajesh Adloori, Morphological plant phenotyping analysis using visible light images, MS Project, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2015-2016.
Abdullah Salim, Steganography: An art of hidden communications, MSC dissertation, Department of Computing, Coventry University, UK, 2013-2014.

Dipal Bhandari, Annotation of plant images for phenotyping using Label Me Plant, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2016.

SERVICE AND COLLABORATION

PROFESSIONAL SERVICE

Data Modelling and Image Analysis

Computation of numeric phenotypes by analyzing images of various plant species captured by the LemnaTec Scanalyzer 3D High Throughput Plant Phenotyping system and LemnaTec High Throughput Screening system to contribute in the image analysis needs of the Agricultural Research Division, University of Nebraska-Lincoln, USA.

Editor and Program Committee Member

Guest Editor, Intelligent Extraction of Phenotypic Traits in Agroforestry, special Issue, Remote Sensing, 2023-2024. https://www.mdpi.com/journal/remotesensing/special_issues/pheno_agf

Track Chair (track: artificial intelligence and machine learning), International Conference on Systems and Technologies for Smart Agriculture (ICSTA), Kolkata, India, 2023.

Review Editor, Frontiers in Plant Science, November 2022-2023.

Lead Topic Editor, Advances in Computer Vision and Artificial Intelligence Techniques for Multi-View, Multimodal Plant Phenotyping Analysis Using Time-Series Imagery, Frontiers in Plant Science in the section Technical Advances in Plant Science, 2022-2023. https://www.frontiersin.org/research-topics/36960/advances-in-computer-vision-and-artificial-intelligence-techniques-for-multi-view-multimodal-plant-phenotyping-analysis-using-time-series-imagery/magazine

Member, multistate hatch committee approved by the North Central Region's Directors of Experiment Stations for project entitled "Exploring the Plant Phenome in Controlled and Field Environments", 2021-2026.

Reviewer, NSF CRII Panel of the IIS Core Program in Information Integration and Informatics, January 2021.

Technical Program Committee Member, Society for Data Science (S4DS), 2018-present.

International Liaison Chair, 3rd International Conference on Data Management, Analytics and Innovation, Kuala Lumpur, Malaysia, January 2019.

Program Committee Member, 3rd International Doctoral Symposium on Applied Computation and Security Systems, University of Calcutta, India, August 2016.

Program Committee Member, 2nd IEEE International Conference on Recent Trends in Information Systems, Jadavpur University, India, July 2014.

Proposal Reviewing

National Science Foundation (NSF) Computer and Information Science and Engineering Research Initiation Initiative Panel of the IIS Core Program in Information Integration and Informatics, January 2021.

Journals Reviewing

IEEE Transactions on Pattern Analysis and Machine Intelligence, Computer Vision and Image Understanding, Pattern Recognition, Pattern Recognition Letters, Plant Methods, Computer Vision Problems in Plant Phenotyping Workshop, Remote Sensing, Sensors, Forests, Computers and Electronics in Agriculture, PeerJ.

Foreign Thesis Evaluation

Thesis title: Department of Electrical Engineering, Indian Institute of Technology, Delhi. Candidate name: Swati Bhugra.

Research Consulting

School of Natural Resources in the Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, USA, image-analysis training for PhD students and postdoctoral researchers, 2016-present.

COLLABORATION

2023-present Kaushik Brahmachari, Professor, Bidhan Chandra Krishi Vishyavidyalaya, *Exploring artificial intelligence solutions for the agricultural growth of saline lands in Sunderbans*, student mentoring, publications, collaborative proposal development.

2023-present Dipak Santra, Professor, Department of Agronomy and Horticulture, University of Nebraska-Lincoln, *Seed quality determination of proso millets using Image Analysis*, student mentoring, collaborative proposal development and proposal development.

2022-present Debasis Ganguly, Assistant Professor, School of Computing, University of Glasgow, *Explainable artificial intelligence for smart agricultural solutions,* algorithm development, student mentoring, collaborative proposal development.

2021-present Xijian Fan, Associate Professor, College of Information Science and Technology, Nanjing Forestry University, *Image-based plant phenotyping and facial expression recognition,* algorithm development and publications.

2020-present Ambarish Ganguly, ETRM and Data and Analytics Practice Lead TCS Utilities, NASA Citizen Scientist, *Data science for sustainable agriculture*, Academic visits, data sharing, algorithm development and publications.

2019-present Ayan Chaudhury and Christophe Godin, INRIA Grenoble Rhône-Alpes, team MOSAIC, Laboratoire Reproduction et Développement des Plantes, University of Lyon, France, *3D geometry modeling of plants.* Academic visits, data sharing and algorithm development.

2018-present Brent E. Ewers and Carmela Rosaria Guadagno, Department of Botany, University of Wyoming, Laramie, *Stress phenotyping of Brassica cultivars using fluorescent image analysis*. Data sharing, proposal development, development of algorithms, student mentoring.

2018-present Jörg-Peter Schnitzler, Helmholtz Zentrum München, Deutsches Forschungszentrum für Gesundheit und Umwelt (GmbH), Germany, *High-throughput plant phenotyping analysis of cereal crops*. Data sharing, proposal development, integrated above- belowground phenotyping computation algorithms, student mentoring.

2018-present Malay Das, Presidency University, Kolkata, India, *3D High-throughput plant phenotyping analysis.* Joint publication, student mentoring.

2017-present Saptarsi Goswami, University of Calcutta, India, *Deep learning solutions in plant phenotyping*. Joint publication, data sharing, co-advising MTech student.

2016-present Tardi Tjahjadi, University of Warwick, UK, *3-dimensional plant phenotyping analysis*. Algorithm development, data sharing, proposal development.

2016-present Juan Diego Hernandez Jarquin, Department of Agronomy and Horticulture, University of Nebraska-Lincoln, USA, *Image analysis to bridge the phenotype-genotype gap.* Joint publication, proposal development.

2015-present Ashok Samal, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, *Image-based plant phenotyping analysis*. Proposal development, joint publication, student mentoring, book editing.

2015-present Tala Awada, Agricultural Research Division, University of Nebraska-Lincoln, USA, *Image-based analysis of biophysical traits in plants*. Proposal development, joint publication, student mentoring.

2013-present Amlan Chakrabarti, Biomedical Systems Engineering, University of Calcutta, India, *Automated diagnosis of cancerous cell detection from X-Ray/CT images.* Joint publication, co-advising a PhD student.

LEADERSHIP

Faculty advisor, UNL Robotics Club, 2022-2023.

Search committee member for Administrative Associate, School of Natural Resources, 2022.

Search committee member for Research Assistant Professor, School of Computing, 2022.

Founder, Plant Vision Initiative, research group for image-based plant phenotyping, University of Nebraska-Lincoln, USA, 2015. http://plantvision.unl.edu/.

Warden, Union Court, off-campus managed student accommodation, University of Warwick, Leamington Spa, Warwickshire, UK, 2011-2014.

Postgraduate ambassador, Wolfson Research Exchange, for promoting interdisciplinary research and organizing PhD networking and collaborative sandpit events, University of Warwick, UK, 2011-2013.

Open-day Assistant, School of Engineering, University of Warwick, UK, 2010-2013.

NEWS

https://newsroom.unl.edu/announce/snr/19055/102618

https://ianrnews.unl.edu/das-choudhury-recognized-inclusive-excellence

https://ianrnews.unl.edu/nebraska-leads-intelligent-image-analysis-plant-phenotyping

https://newsroom.unl.edu/announce/snr/11795/70047

MEMBERSHIP OF PROFESSIONAL BODIES

North American Plant Phenotyping Network (NAPPN), 2021-2023.
Society for Data Science (S4DS), 2020-present.

PROFESSIONAL DEVELOPMENT

Taming Big Data with Apache Spark and Python - Hands On!, Udemy online course, August 2024.

Certificate Course in Business Analytics, University of Nebraska-Lincoln, 2024 (ongoing).

Master LangChain -Build AI Apps-OpenAI, LLAMA2 & HuggingFace, Udemy online course (ongoing), October 2023.

ChatGPT Complete Guide: Learn Midjourney, ChatGPT 4 & more, Udemy online course (ongoing), June 2023.

Attendance System with Face Recognition in Python, Udemy online course (certificate earned), June 2023.

Data Science A-Z™: Real Life Data Science Exercises Included, Udemy online course (certificate earned), May 2020.

Machine Learning and Deep Learning A-Z™, Udemy online course (ongoing), May 2020.

Machine Learning by Stanford University on Coursera (certificate earned), online course, May 2019.

BisQue + Scalable Image Informatics Workshop, University of California, Santa Barbara, February 2018.

Write Winning Grant Proposals Seminar, Office of Research and Economic Development, University of Nebraska-Lincoln, USA, March 2016.

LemnaTec Plant Phenotyping System Training, University of Nebraska-Lincoln, USA, April-June 2015.

Communication and Impact for Female Postdoctoral Researchers Course, Cumberland Lodge and British Broadcasting Corporation, London, UK, July-August 2014.

Competitive Collaborative Sandpit, Wolfson Research Exchange, University of Warwick, UK, December 2012.

10th International Summer School on Biometrics, Alghero, Italy, June 2013.

In-sessional English program: Listening and Speaking Course, University of Warwick, UK, May-June 2011.

Workshops on "Effective Communication: Having Productive Conversation", "Academic Writing: Grammatical Accuracy, Syntax", "Collaborative Working and Developing Leadership Skills", "Poster Design and Creation", "Flash CS4 Intermediate – Building Rich Interactive Content" ,"Video Capturing and Editing Workshop", at University of Warwick, UK, 2010-2013.

Short-term courses on "Programming in Scripting Language", "Software Engineering", "Abstract Models of Computation", "C Programming and Data Structures", at National Institute of Technical Teachers' Training and Research, Kolkata, India, 2006-2010.