# Sruti Das Choudhury

Research Assistant Professor
School of Natural Resources and Department of Computer Science and Engineering
University of Nebraska-Lincoln, Lincoln, NE, USA

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## EDUCATION

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| 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

2016-present    Research Assistant Professor, School of Natural Resources and Department of Computer Science and Engineering, 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 APPOINTMENTS

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. Honorable Mention, Outstanding Postdoctoral Scholar, University of Nebraska-Lincoln, 2017.
2. Warwick Institute of Advanced Study Early Career Research Fellowship, University of Warwick, 2014.
3. EPSRC fellowship for interdisciplinary research project entitled "Smart Surveillance System: Multimodal Biometrics for Security and Law Enforcement", 2013.
4. Warwick Postgraduate Research Scholarship and Engineering Bursary, University of Warwick, 2010.
5. Gold medal for securing first position in Master of Technology, University of Calcutta, 2009.

## RESEARCH

## RESEARCH INTEREST

Computer vision, plant phenotyping analysis, machine intelligence, pattern recognition, multimodal biometrics, information security and medical image analysis.

## REFEREED JOURNAL PUBLICATIONS

### Published

1. A. Mazis, **S. D. 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, in press, 2020.

2. **S. D. Choudhury,** A. Samal, T. Awada, Leveraging Image Analysis for Plant Phenotyping, Frontiers in Plant Science, 10(508), 2019.

3. X. Fan, Q. Ye, X. Yang, **S. D. 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.

4. D. Jarquin, R. Howard, A. Xavier, **S. D. Choudhury**, Increasing Predictive Ability by Modeling Interactions between Environments, Genotype and Canopy Coverage Image Data for Soybeans, Agronomy, 8 (4), 2018.

5. **S. D. 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.

6. **S. D. Choudhury,** S. Bashyam, Y. Qui, A. Samal, T. Awada, Holistic and Component Plant Phenotyping using Visible Light Image Sequence, Plant Methods, 14:35, 2018.

7. **S. D. Choudhury**, T. Tjahjadi, Clothing and Carrying Condition Invariant Gait Recognition using Rotation Forest, Pattern Recognition Letters, 80, 2016, 1–7.

8. **S. D. Choudhury**, T. Tjahjadi, Robust View-Invariant Multiscale Gait Recognition, Pattern Recognition, 48, 2014, 798–811.

9. **S. D. Choudhury**, T. Tjahjadi, Gait Recognition Based on Shape and Motion Analysis of Silhouette Contour, Computer Vision and Image Understanding, 117, 2013, 1770-1785.

10. **S. D. Choudhury**, T. Tjahjadi, Silhouette-Based Gait Recognition using Procrustes Shape Analysis and Elliptic Fourier Descriptors, Pattern Recognition, 45, 2012, 3414-3426.

**Submitted**

1. **S. D. 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, under review, 2019.

**In preparation**

1. **S. D. Choudhury,** A. Samal, Flower Detection based on Deep Learning for Ontogenetical Plant Phenotyping Analysis, IEEE International Conference on Pattern Recognition, to be submitted by September 2020.

2. **S. D. Choudhury**, S. Bashyam, A. Samal, Leaf Tracking based on Multi-view Image Sequence Analysis for Plant Phenotyping, IEEE Transactions on Image Processing, to be submitted by September 2020.

3. **S. D. Choudhury**, C. R. Guadagno, R. Gui, A. Samal, B.E. Ewers, Stress Detection and Phenotype Computation using AutoFluorescence Image Sequences, Frontiers in Plant Science, to be submitted by October 2020.

4. **S. D. Choudhury**, S. Gampa, A. Samal, Data Scientific Technique for Stress Phenotyping of Plants using Hyperspectral Image Sequence Analysis: Dataset, Algorithm and Analysis, Pattern Recognition, to be submitted by October 2020.

5. **S. D. Choudhury**, B. Agarwal, A. Samal, Detection of Plant Emergence based on Spatio-Temporal Image Sequence Analysis, Frontiers in Plant Science, to be submitted by December 2020.

**PEER REVIEWED CONFERENCE/WORKSHOP PUBLICATIONS**

1. **S. D. 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, Glasgow, UK, August 2020.

2. **S. D. 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.

3. **S. D .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.

4. **S. D. 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.

5. Y. Guan, C.-T. Li, **S. D. 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
Editors: A. Samal and **S. D. Choudhury**

Publication date: Fall 2020 (with the production department since May 2020).

**Book Chapters**

1. **S. D. Choudhury**, A. Samal, Structural high-throughput plant phenotyping based on image sequence analysis, Intelligent Image Analysis for Plant Phenotyping, CRC Press.

2. **S. D. Choudhury**, S. Goswami, A. Chakrabarti, Time series and Eigen value based analysis of plant phenotypes, Intelligent Image Analysis for Plant Phenotyping, CRC Press.

3. **S. D. Choudhury**, Segmentation techniques and challenges in plant phenotyping, Intelligent Image Analysis for Plant Phenotyping, CRC Press.

4. J. D. Hernandez Jarquin, R. Howard, **S. D. Choudhury**, Integration of longitudinal image data and genomic information for prediction plants, Intelligent Image Analysis for Plant Phenotyping CRC Press.

5. A. Samal, **S. D. Choudhury**, T. Awada, Image-based plant phenotyping: Opportunities and challenges, Intelligent Image Analysis for Plant Phenotyping, CRC Press.


**DATASET AND SOFTWARE PUBLICATION**

1. Phenoseries dataset to foster time series modeling of phenotypic prediction and phenotype-genotype mapping, 2020. https://plantvision.unl.edu/dataset

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

3. 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

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

5. Leaf Detection and Component Phenotype Computation Software (MATLAB), 2018. https://plantvision.unl.edu/software

6. 2D Plant Phenotyping Tool (OpenCV, C++), 2017. https://plantvision.unl.edu/software

**RESEARCH GRANTS**

1. 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: Investigator (outcome awaited).

2. 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.

3. 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.

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

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

**INVITED TALKS**

Recent Advances of Artificial Intelligence in Multimodal Plant Phenotyping Analysis, webinar at Open Data Science Conference, July 16, 2020.

3D Plant Phenotyping Analysis, INRIA Grenoble Rhône-Alpes, team MOSAIC, Laboratoire Reproduction et Développement des Plantes, University of Lyon, France, October 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.

**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

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

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## TEACHING

### TEACHING PREPARATION

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

### COURSE DEVELOPMENT

Computer Vision Techniques for Plant Phenotyping, Seminar course, CSCE 990, spring 2018, University of Nebraska-Lincoln, Lincoln, NE, USA.

### EXPERIENCE

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

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| 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

Rubi Quinones, Integrated root-shoot phenotyping using image analysis, PhD thesis, Department of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2019. Co-advisor.

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.

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

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 Mazia, Structural phenotyping analysis of tree species, School of Natural Resources, University of Nebraska-Lincoln, USA, 2018-present.

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

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.

### 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.

### 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

2019-present     Dr. Ayan Chaudhury and Dr. 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     Dr. 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     Dr. 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     Dr. Malay Das, Presidency University, Kolkata, India, *3D High-throughput plant phenotyping analysis.* Joint publication, student mentoring.

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

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

2016-present     Dr. 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     Dr. 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     Dr. 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     Dr. 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

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.

## PROFESSIONAL DEVELOPMENT

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

Machine Learning and Deep Learning A-Z$^{TM}$, 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.