

Dr. SATHISHKUMAR (SATHISH) SAMIAPPAN

Office Address

2506 E.J. Chapman Drive
Knoxville, TN 37996
(865)-974-7266
sathish@utk.edu

Residential Address

919 Belle Pond Ave
Knoxville, TN 37932
(662) 617-1148
samiappan.sathish@gmail.com

Work Authorization: U.S. Permanent Resident (Green Card) — no employment sponsorship required

EDUCATION

Ph.D., Electrical and Computer Engineering with minor in Computer Science
Mississippi State University(MSU), Starkville, MS August 2009 - August 2014

Master of Science, Computer Science and Engineering
Amrita University, India June 2004 - May 2006

Bachelor of Engineering, Electronics and Communication Engineering
Bharathiar University, India July 2000 - May 2003

PROFESSIONAL EXPERIENCE

The University of Tennessee at Knoxville
Associate Professor, Department of Biosystems Engineering November 2024 - Present

Mississippi State University
Associate Research Professor, Geosystems Research Institute July 2023 – October 2024
Assistant Research Professor, Geosystems Research Institute May 2018 – June 2023
Postdoctoral Associate, Geosystems Research Institute October 2014 – April 2018

National Oceanic and Atmospheric Administration May–August 2013
Intern, National Data Buoy Center, Stennis Space Center, MS

Amrita University, India June 2006 – July 2009
Lecturer, Department of Electronics and Communication Engineering

VLB Janakiammal College of Engineering, India June 2003 – May 2004
Instructor, Department of Electronics and Communication Engineering

CONTRACTS AND GRANTS

1. Co-PI- **S. Samiappan**, J. Granger, and Lead PI- J. M. P. Czarnecki (2025 - 2028). *Making Christmas A Little Greener: Improving The Economic And Environmental Sustainability Of Small- And Medium-Sized Christmas Tree Farms*. Funded by USDA NIFA, Total Amount: \$ 549,823.00 (Amount to Dr. Samiappan's program: \$ 49,914.00)
2. PI- **S. Samiappan** (2025 - 2026). *Developing robotic solutions for sustainable weed management in organic agriculture: Integrating deep learning AI and solar-thermal energy*. Funded by UTIA AgResearch, Total Amount: \$ 30,000.00 (Amount to Dr. Samiappan's program: \$ 15,000.00)
3. PI- J. Drewry, Co-PI- **S. Samiappan**, and J. M. P. Czarnecki (2025 - 2026). *Harnessing AI To Improve Yield Monitor Data Veracity To Increase Adoption Of Precision Agricultural Management*. Funded by the United States Department of Agriculture (USDA) - National Institute of Food and Agriculture (DSFAS), Total Amount: \$ 649,913.00 (Amount to Dr. Samiappan's program: \$ 30,000.00)
4. PI- **S. Samiappan** (2023). *Detection and Classification of Micro-plastics in Poultry using Hyperspectral Imaging*. Funded by the United States Department of Agriculture (USDA) Agricultural Research Service (ARS) , Amount: \$ 7,361.00
5. PI- **S. Samiappan** and Co-PI- J. M. P. Czarnecki (2023 - 2028). *Advanced autonomy, precision agriculture and artificial intelligence for dynamic, robust and resilient cropping systems*. Funded by the USDA ARS, Amount: \$ 4,159,455.00
6. PI- **S. Samiappan** and Co-PI- G.Turnage (2023 - 2024). *Hyperspectral detection of off-flavor causing cyanobacteria in catfish aquaculture with unmanned aerial systems*. USDA-ARS sponsored project of the MS Center for Enhancing Utilization and Safety of Catfish and Other Aquatic Foods, Amount: \$ 51,756.00
7. PI- K. O. Evans, Co-PI- M. McConnell, and **S. Samiappan** (2022 - 2024). *CRP Menu -a Spatially-Explicit Decision Support Tool to Enhance Landowner Engagement in CRP Incentives Programs*. Funded by the USDA (2023-2025), Amount: \$ 1,500,264.00
8. PI- G. Turnage, Co-PI- **S. Samiappan**, and R. J. Moorhead (2022 - 2026). *Automated Mapping of Non-Indigenous Aquatic Plant Species (In Response to ERDC BAA Topic # EL-33)*. Funded by The U.S. Army Engineer Research and Development Center (ERDC) (Expected start date - Jan 2023); Total Amount: \$ 2,533,927.00 (Amount to Dr. Samiappan's program at UT: \$ 261,822.00)
9. PI-**S. Samiappan** (August 2022 - August 2023). *Using Hyperspectral Sensors and Machine Learning to Detect Threats to Natural Ecosystems*. Island Conservation - California & Hawaii, Amount: \$ 24,366.00
10. PI- **S. Samiappan** (2021 - 2022). *Automated classification of aquatic invasive plants using deep learning AI and visible spectrum imagery*. Office of Research and Economic Development (ORED) Undergraduate Research Program, Funded by the Mississippi State University's ORED, Amount: \$ 2,000.00
11. PI- K. O. Evans, Co-PI- A. Linhoss (2017-2021), and **S. Samiappan (2021-2022)** (2017 - 2022). *Strategic Conservation Assessment of Gulf Coast Landscapes*. Funded by United States Department of Interior, Amount: \$ 1,766,618.00

12. PI- C. Barickman and Co-PI- **S. Samiappan** (2022). *Utilization of Small Unmanned Aerial Systems and Hyperspectral Imagery for High-Throughput Phenotyping of Cowpea Tolerance to Waterlogging Stress*. Funded by USDA under Hatch-Multistate CRIS Project, Amount: \$ 49,886.46
13. PI- K. O. Evans and Co-PI- **S. Samiappan** (January 2022 - December 2022). *Maintenance, Update, and Streamlining of the Strategic Conservation Assessment Tools*. Funded by United States Department of Interior, Amount: \$ 150,000
14. Co-PIs- **S. Samiappan** PI- **K. O. Evans** and M. T. Gray. (January 2021 - December 2023). *Next Generation Southeastern Conservation Blueprint for the Middle-Southeast and Lower Mississippi Valley*. Funded by United States Department of Interior, Amount: \$ 407,942
15. PI- **S. Samiappan** and Co-PI- R. B. Iglay. (July 2021 - June 2023). *Using Multiple Object Tracking (MOT) to Identify Escape Reactions of Two Gull Species From sUAS Videos: Video Tracking Tool Development for Principal Study*. Funded by USDA National Wildlife Research Center (NWRC) and Federal Aviation Administration (FAA) – 2021 to 2022, Grant Number: AP21WSNWRC00C048, Amount: \$124,825
16. PI- R. B. Iglay and Co-PI- **S. Samiappan** (August 2020 - July 2023). *Companion Study to UAS Monitoring Study, Mammal and Nocturnal Surveys Using sUAS: Role in Airport Environments*. Funded by USDA NWRC and FAA – 2020 to 2022, Grant Number: AP20WSNWRC00C026, Amount: \$824,753.00
17. PI- R. B. Iglay and Co-PI- **S. Samiappan** (June 2020 - May 2022). *Developing UAS Operator Guide and Evaluating Estimate Bias for Airport Wildlife Monitoring*. Funded by USDA NWRC and FAA – 2020 to 2022, Grant Number:AP2WSNWRC00C010, Amount: \$116,721.08
18. PI- R. J. Moorhead, Co-PIs- J. M. P. Czarnecki, **S. Samiappan**, and M. Kurum (October 2019 - September 2023). *Advancement of UAS/UAV Application Systems*. Funded by USDA ARS – 2019 to 2022, Grant Number:58-6064-9-007, Amount: \$2,589,277.00

PROPOSALS CURRENTLY UNDER REVIEW

1. Co-PI- **S. Samiappan** (Submitted 2025 - Under Review[d]). *NSF Engineering Research Center for Advancing Innovation in Renewable Co-products and Aviation Fuel Technologies (AIRCRAFT)*. Submitted to the U.S. National Science Foundation (NSF); Total Amount: \$ 14,585,260.00 (Amount to Dr. Samiappan's program: \$ 668,284.00)
2. Co-PI- **S. Samiappan** (Submitted 2026 - Under Review[a]). *CROP: Calculating Risk for Optimized Productivity*. Submitted to the USDA National Institute of Food and Agriculture (NIFA-SAS); Total Amount: \$ 6,000,000.00 (Amount to Dr. Samiappan's program: \$ 259,274.00)
3. Co-PI- **S. Samiappan** (Submitted 2026 - Under Review[b]). *Development of Novel Pest Management Methods for Suppressing New World Screwworm*. Submitted to the USDA NIFA Grand Challenge; Total Amount: \$ 3,372,673.00 (Amount to Dr. Samiappan's program: \$ 549,618.00)

4. Lead PI- **S. Samiappan** (Submitted 2026 - Under Review[c]). *Integrating Artificial Intelligence and Precision Agriculture Technology into K-12 Education and Extension*. Submitted to the USDA National Institute of Food and Agriculture (NIFA); Total Amount: \$ 1,999,804.00 (Amount to Dr. Samiappan's program: \$ 450,479.00)
5. Lead PI- **S. Samiappan** (Submitted 2026 - Under Review[d]). *PHAROS: Precision Solar Heat-based AI Robot for Sustainable Weed Management in Organic Systems*. Submitted to the USDA Organic Research and Extension Initiative (OREI); Total Amount: \$ 1,948,000.00
6. Lead PI- **S. Samiappan** (Submitted 2025 - Under Review[b]). *Development of on-board radiometric calibration and image classification hardware to detect harmful algal blooms*. Submitted to the U.S. Department of Defense, Army Corps of Engineers (US-ACE); Total Amount: \$ 876,372.00 (Amount to Dr. Samiappan's program: \$ 468,302.00)
7. PI- **S. Samiappan** (Submitted 2025 - Under Review[b]). *Open-Source Edge AI for Real-Time Monitoring of Honey Bee Colony Strength and Pollination Efficiency*. Submitted to the USDA National Institute of Food and Agriculture (NIFA); Total Amount: \$ 750,000.00 (Amount to Dr. Samiappan's program: \$ 450,000.00)
8. PI- **S. Samiappan** (Submitted 2025 - Under Review[a]). *DSFAS: Leaf AI – A Multi-Modal Vision Foundation Model for Biotic and Abiotic Stress Detection in Tennessee Corn, Cotton, and Soybean*. Submitted to the USDA National Institute of Food and Agriculture (NIFA); Total Amount: \$ 650,000.00 (Amount to Dr. Samiappan's program: \$ 388,422.00)
9. Co-PI- **S. Samiappan** (Submitted 2025 - Under Review[c]). *Intelligent and mobile robotic system to mitigate livestock-vulture conflict in small- to medium-sized farms*. Submitted to the USDA National Institute of Food and Agriculture (NIFA); Total Amount: \$ 650,000.00 (Amount to Dr. Samiappan's program: \$ 150,000.00)
10. Co-PI- **S. Samiappan** (Submitted 2025 - Under Review[a]). *Algal Population Surveillance and Disease Prediction in Commercial Catfish Production Ponds*. Submitted to the USDA National Institute of Food and Agriculture (NIFA); Total Amount: \$ 650,000.00 (Amount to Dr. Samiappan's program: \$ 75,000.00)
11. Co-PI- **S. Samiappan** (Submitted 2025 - Under Review[b]). *DSFAS: A foundational computer vision model for stored product pest species*. Submitted to the USDA National Institute of Food and Agriculture (NIFA); Total Amount: \$ 650,000.00
12. Lead PI- **S. Samiappan** (Submitted 2025 - Under Review[a]). *BLM-HQ: Invasive species detection and mapping using very high-resolution satellite imagery and foundational AI model*. Submitted to the U.S. Department of the Interior, Bureau of Land Management (BLM); Total Amount: \$ 575,639.00 (Amount to Dr. Samiappan's program: \$ 575,639.00)
13. Lead PI- **S. Samiappan** (Submitted 2026 - Under Review[b]). *DeepTaphonomy: An explainable vision foundational model for objective forensic taphonomy*. Submitted to the U.S. Federal Bureau of Investigation (pre-proposal); Total Amount: \$ 525,097.00
14. Co-PI- **S. Samiappan** (Submitted 2026 - Under Review[c]). *Screwworm Surveillance and Geospatial Monitoring Framework*. Submitted to the USDA National Institute of

Food and Agriculture (NIFA); Total Amount: \$ 500,000.00 (Amount to Dr. Samiappan's program: \$ 125,000.00)

15. Lead PI- **S. Samiappan** (Submitted 2026 - Under Review[a]). *Building the Capacity of Tennessee K-14 Educators to Lead the AI Transformation in AgTech and Precision Agriculture*. Submitted to the USDA National Institute of Food and Agriculture (NIFA); Total Amount: \$ 496,656.00 (Amount to Dr. Samiappan's program: \$ 214,568.00)

SCHOLARLY ACCOMPLISHMENTS

[Google Scholar](#)

Journal Articles and Book Chapters

1. Piyush Chaudhary, Connor Foley, **S. Samiappan**, Leon Kohler, Volkan Senyurek, Dawson Boes, and Priyadarshini Chakrabarti (2026). "Estimating colony strength and pollination efficiency in honey bees using a novel dataset and deep learning-based models". In: *Smart Agricultural Technology* 14, p. 102005. URL: <https://doi.org/10.1016/j.atech.2026.102005>
2. Minhaj Uddin, Sathishkumar Samiappan, and Jessica L. Drewry (2026). "Automated yield monitor data post-processing pipeline via explainable model benchmarking and stacked ensemble". In: *Computers and Electronics in Agriculture* 241, p. 111278. URL: <https://www.sciencedirect.com/science/article/pii/S0168169925013845>
3. Bikash Adhikari, Omolayo J. Olorunwa, Jeff Wilson, T. Casey Barickman, Kellie J. Walters, **S. Samiappan**, and Raju Bheemanahalli (Dec. 2025). "Morpho-physiological, leaf hyperspectral, and nutritional responses of lettuce to salt stress". In: *Plant Physiology Reports* 30.4, pp. 721–735. URL: <https://doi.org/10.1007/s40502-025-00885-w>
4. Rajesh Gund, Chetan M. Badgujar, **S. Samiappan**, and Sindhu Jagadamma (2025). "Application of digital twin technology in smart agriculture: A bibliometric review". In: *Agriculture* 15.17, p. 1799. URL: <https://doi.org/10.3390/agriculture15171799>
5. **S. Samiappan** and Anand R (Dec. 2025). "Layered Resource Sharing for Distributed Computing in IoT Using Hybrid MILP-Chameleon Swarm Optimization". In: *Journal of Computational and Cognitive Engineering*. URL: <https://ojs.bonviewpress.com/index.php/JCCE/article/view/6865>
6. Chintan B. Maniyar, Xin Yan, Gengchen Mai, Dhiraj Srivastava, **S. Samiappan**, Arman Oliazadeh, Abhishek Kumar, Minakshi Kumar, and Deepak R. Mishra (2025). "Artificial intelligence in environmental remote sensing: Progress, way forward and key considerations". In: *Progress in Environmental Geography* 4.3, pp. 363–389. URL: <https://doi.org/10.1177/27539687251357020>
7. Elza George, Aravinth J, and **S. Samiappan** (2025). "Attention Subsumed Residual Dense Network for Reconstruction of Block Compressed Hyperspectral Images". In: *IEEE Access* 13, pp. 200883–200904

8. J Ramasamy, A Raju, Kavitha Krishnasamy Ranganathan, Muthumanickam Dhanaraju, Backiyathu Saliha, Kumaraperumal Ramalingam, and **S. Samiappan** (2025). “Battle Royale Optimization for Optimal Band Selection in Predicting Soil Nutrients Using Visible and Near-Infrared Reflectance Spectroscopy and PLSR Algorithm”. In: *Journal of Imaging* 11.3. URL: <https://www.mdpi.com/2313-433X/11/3/83>
9. J.P. Brooks, M.J. Wubben, R.K. Smith, Jo Waldbieser, **S. Samiappan**, P Ramamoorthy, and R Bheemanahalli (2025). “Predicting select soil health genes using hyperspectral reflectance in nematode-infected and drought stressed greenhouse cotton”. In: *Frontiers in Soil Science* Volume 5 - 2025. URL: <https://www.frontiersin.org/journals/soil-science/articles/10.3389/fsoil.2025.1499491>
10. Xia Pan, Zhenyi Wang, Gary Feng, Shan Wang, and **S. Samiappan** (Apr. 2025). “Automated mapping of land cover in Google Earth Engine platform using multispectral Sentinel-2 and MODIS image products”. In: *PLOS ONE* 20.4, pp. 1–20. URL: <https://doi.org/10.1371/journal.pone.0312585>
11. A Raju and **S. Samiappan** (2025). “Feature Extraction in 5G Wireless Systems: A Quantum Cat Swarm and Wavelet-Based Approach”. In: *Future Internet* 17.5. URL: <https://www.mdpi.com/1999-5903/17/5/188>
12. L.B. Ferreira, V.S. Martins, U.R.V. Aires, N Wijewardane, X Zhang, and **S. Samiappan** (2025). “FieldSeg: A scalable agricultural field extraction framework based on the Segment Anything Model and 10-m Sentinel-2 imagery”. In: *Computers and Electronics in Agriculture* 232, p. 110086. URL: [10.1016/j.compag.2025.110086](https://doi.org/10.1016/j.compag.2025.110086)
13. Joby M. Prince Czarnecki, **S. Samiappan**, Raju Bheemanahalli, Yanbo Huang, and Sadia Alam Shammi (2025). “A brief history of remote sensing of soybean”. en. In: *Agronomy Journal* 117.1, e70004. URL: <https://doi.org/10.1002/agj2.70004>
14. Suraj A. Yadav, Xin Zhang, Nuwan K. Wijewardane, Max Feldman, Ruijun Qin, Yanbo Huang, **S. Samiappan**, Wyatt Young, and Francisco G. Tapia (2025). “Context-Aware Deep Learning Model for Yield Prediction in Potato Using Time-Series UAS Multispectral Data”. In: *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, pp. 1–20. URL: <https://doi.org/10.1109/JSTARS.2025.3539217>
15. J. Aravinth, R. Anand, and **S. Samiappan** (2024). “Multilinear compressive learning and reconstruction of hyperspectral data with U-Net architecture for enhanced spectral imaging”. In: *Digital Signal Processing* 155, p. 104740. URL: <https://doi.org/10.1016/j.dsp.2024.104740>
16. Raymond B. Iglay, Landon R. Jones, Jared A. Elmore, Kristine O. Evans, **S. Samiappan**, Morgan B. Pfeiffer, and Bradley F. Blackwell (2024). “Wildlife monitoring with drones: A survey of end users”. In: *Wildlife Society Bulletin*, e1533. URL: <https://doi.org/10.1002/wsb.1533>
17. **S. Samiappan**, B.S Krishnan, D Dehart, L.R Jones, J.A Elmore, Kristine O Evans, and R.B Iglay (July 2024). “Aerial Wildlife Image Repository for animal monitoring with drones in the age of artificial intelligence”. In: *Database* 2024, baae070. URL: <https://doi.org/10.1093/database/baae070>

18. R Anand, **S. Samiappan**, and M. Prabukumar (June 2024). “Fine-tuning digital FIR filters with gray wolf optimization for peak performance”. In: *Scientific Reports* 14.1, p. 12675. URL: <https://doi.org/10.1038/s41598-024-62403-6>
19. P. Sreevidya, J. Aravinth, and **S. Samiappan** (2024). “Intermediate Layer Attention Mechanism for Multimodal Fusion in Personality and Affect Computing”. In: *IEEE Access* 12, pp. 112776–112793. URL: <https://doi.org/10.1109/ACCESS.2024.3442377>
20. J Aravinth, R Anand, and **S. Samiappan** (2024). “Multilinear compressive learning and reconstruction of hyperspectral data with U-Net architecture for enhanced spectral imaging”. In: *Digital Signal Processing*, p. 104740. URL: <https://doi.org/10.1016/j.dsp.2024.104740>
21. R Anand, **S. Samiappan**, and K.R Kavitha (2024). “Flower pollination optimization based hyperspectral band selection using modified wavelet Gabor deep filter neural network”. In: *Infrared Physics and Technology* 138. URL: <https://www.sciencedirect.com/science/article/pii/S1350449524000999>
22. J Crumpton, P Morgan, **S. Samiappan**, J.A Elmore, L Jones, B Krishnan, R.B Iglay, E Fernandez-Juricic, and B Blackwell (2024). “Relief Displacement of Airborne Objects”. In: *Remote Sensing Letters* 15.9. URL: <https://doi.org/10.1080/2150704X.2024.2387131>
23. R.R Vennam, S Poudel, P Ramamoorthy, **S. Samiappan**, K.R Reddy, and R Bheemanahalli (2023). “Impact of Soil Moisture Stress during the Silk Emergence and Grain-filling in Maize”. In: *Physiologia Plantarum* 175.5. URL: <https://doi.org/10.1111/pp1.14029>
24. A Shrestha, R Bheemanahalli, A Adeli, **S. Samiappan**, J.M.P Czarnecki, D McCraine, K.R Reddy, and R.J Moorhead (2023). “Phenological Stage and Vegetation Index for Predicting Corn Yield under Rainfed Environments”. In: *Frontiers in Plant Science* 14.1168732. URL: <https://doi.org/10.3389/fpls.2023.1168732>
25. D McCraine, **S. Samiappan**, L Kohler, T Sullivan, and D. J. Will (2024). “Automated Hyperspectral Feature Selection and Classification of Wildlife Using Uncrewed Aerial Vehicles”. In: *Remote Sensing* 16.2. URL: <https://www.mdpi.com/2072-4292/16/2/406>
26. A. Matese, J.M.P Czarnecki, and **S. Samiappan** (2023). “Are unmanned aerial vehicle- based hyperspectral imaging and machine learning advancing crop science”. In: *Trends in Plant Science*. URL: <https://doi.org/10.1016/j.tplants.2023.09.001>
27. L.R. Jones, J.A. Elmore, B.S. Krishnan, **S. Samiappan**, and R.B. Iglay (2023). “Controllable factors affecting accuracy and precision of human identification of animals from drone imagery”. In: *Ecosphere* 14. URL: <https://doi.org/10.1002/ecs2.4657>
28. B.S. Krishnan, J.A. Elmore, L.R. Jones, **S. Samiappan**, and R.B. Iglay (2023). “Fusion of visible and thermal images improves automated detection and classification of animals for drone surveys”. In: *Scientific Reports - Nature* 13.1. URL: <https://doi.org/10.1038/s41598-023-37295-7>

29. R. Bheemanahalli, B. Santhana Krishnan, N. Wijewardane, **S. Samiappan**, and K. R. Reddy (Apr. 2023). “Remote Sensing Algorithms and Their Applications in Plant Phenotyping”. In: *Springer - Translating Physiological Tools to Augment Crop Breeding*. URL: https://doi.org/10.1007/978-981-19-7498-4_15
30. J.A. Elmore, E.A. Schultz, L.R. Jones, K.O. Evans, **S. Samiappan**, M.B. Pfeiffer, B.F. Blackwell, and R.B. Iglay (Feb. 2023). “Evidence on the efficacy of small unoccupied aircraft systems (UAS) as a survey tool for North American terrestrial, vertebrate animals: a systematic map”. In: *Environmental Evidence* 12.1, p. 3. URL: <https://doi.org/10.1186/s13750-022-00294-8>
31. A. Baskar, T.G. Kumar, and **S. Samiappan** (Feb. 2023). “A vision system to assist visually challenged people for face recognition using multi-task cascaded convolutional neural network (MTCNN) and local binary pattern (LBP)”. in: *Journal of Ambient Intelligence and Humanized Computing*. URL: <https://doi.org/10.1007/s12652-023-04542-8>
32. P. Ramamoorthy, **S. Samiappan**, M. J. Wubben, J. P. Brooks, R. Bheemanahalli, and K. R. Reddy (2022). “Hyperspectral Reflectance and Machine Learning Approaches for the Detection of Drought and Root-Knot Nematode Infestation in Cotton”. In: *Remote Sensing* 14.16, p. 105493. URL: <https://www.mdpi.com/2072-4292/14/16/4021>
33. **S. Samiappan**, A. Shamaskin, J. Liu, Y. Liang, J. Roberts, A. L. Sesser, S. M. Westlake, A. Linhoss, K. O. Evans, J. Tirpak, T. E. Hopkins, S. Ashby, and L. W. Burger (2022). “Evidence-Based Land Conservation Framework Using Multi-Criteria Acceptability Analysis: A Geospatial Tool for Strategic Land Conservation in the Gulf Coast of the United States”. In: *Environmental Modelling & Software*, p. 105493. URL: <https://www.sciencedirect.com/science/article/pii/S1364815222001967>
34. R. Bheemanahalli, P. Ramamoorthy, S. Poudel, **S. Samiappan**, N. Wijewardane, and K. R. Reddy (2022). “Effects of Drought and Heat Stresses During Reproductive Stage on Pollen Germination, Yield, and Leaf Reflectance Properties in Maize (*Zea Mays* L.)”. In: *Plant Direct* 6.8, e434. URL: <https://onlinelibrary.wiley.com/doi/abs/10.1002/pld3.434>
35. R. Anand, **S. Samiappan**, V. Shanmugham, E. Worch, and M. Zhou (2022). “Airborne Hyperspectral Imagery for Band Selection Using Moth Flame Metaheuristic Optimization”. In: *Journal of Imaging* 8.5. URL: <https://www.mdpi.com/2313-433X/8/5/126>
36. A. L. Sesser, S. M. Westlake, C. Schafer, J. Roberts, **S. Samiappan**, Y. Allen, and A. Linhoss (2022). “Co-Producing Decision Support Tools for Strategic Conservation of Gulf Coast Landscapes”. In: *Current Research in Environmental Sustainability* 4, p. 100156. URL: <https://www.sciencedirect.com/science/article/pii/S2666049022000342>
37. J. M. P. Czarnecki, **S. Samiappan**, M. Zhou, C. D. McCraine, and L. L. Wasson (2021). “Real-Time Automated Classification of Sky Conditions Using Deep Learning and Edge Computing”. In: *Remote Sensing* 13.19. URL: <https://www.mdpi.com/2072-4292/13/19/3859>

38. M. Zhou, J. A. Elmore, **S. Samiappan**, K. O. Evans, M. B. Pfeiffer, B. F. Blackwell, and R. B. Iglay (2021). “Improving Animal Monitoring Using Small Unmanned Aircraft Systems (sUAS) and Deep Learning Networks”. In: *Sensors* 21.17. URL: <https://www.mdpi.com/1424-8220/21/17/5697>
39. J. A. Elmore, M. F. Curran, K. O. Evans, **S. Samiappan**, M. Zhou, M. B. Pfeiffer, B. F. Blackwell, and R. B. Iglay (June 2021). “Evidence on the Effectiveness of Small Unmanned Aircraft Systems (sUAS) as a Survey Tool for North American Terrestrial, Vertebrate Animals: A Systematic Map Protocol”. In: *Environmental Evidence* 10.1, p. 15. URL: <https://doi.org/10.1186/s13750-021-00228-w>
40. S. Sawant, P. Manoharan, and **S. Samiappan** (2020). “A modified Cuckoo Search algorithm based optimal band subset selection approach for hyperspectral image classification”. In: *Journal of Spectral Imaging* 9.1, a6. URL: <https://doi.org/10.1255/jsi.2020.a6>
41. A. Shamaskin, **S. Samiappan**, J. Liu, J. Roberts, A. Linhoss, and K. O. Evans (2020). “Multi-Attribute Ecological and Socioeconomic Geodatabase for the Gulf of Mexico Coastal Region of the United States”. In: *Data* 5.1. URL: <https://www.mdpi.com/2306-5729/5/1/3>
42. **S. Samiappan**, L. A. Hathcock, G. Turnage, C. McCraine, J. Pitchford, and R. J. Moorhead (2019). “Remote Sensing of Wildfire Using a Small Unmanned Aerial System: Post-Fire Mapping, Vegetation Recovery and Damage Analysis in Grand Bay, Mississippi/Alabama, USA”. in: *Drones* 3.2. URL: <https://www.mdpi.com/2504-446X/3/2/43>
43. P. C. Burr, **S. Samiappan**, L. A. Hathcock, R. J. Moorhead, and B. S. Dorr (2019). “Estimating Waterbird Abundance on Catfish Aquaculture Ponds Using an Unmanned Aerial System”. In: *Human–Wildlife Interactions* 13.16 (2). URL: <https://digitalcommons.usu.edu/hwi/vol13/iss2/16/>
44. **S. Samiappan**, A. Shamaskin, J. Liu, J. Roberts, A. Linhoss, and K. O. Evans (2019). “Land Conservation in the Gulf of Mexico Region: A Comprehensive Review of Plans, Priorities, and Efforts”. In: *Land* 8.5. URL: <https://www.mdpi.com/2073-445X/8/5/84>
45. P. Manoharan, S. Sawant, **S. Samiappan**, and L. Agilandeeswari (Oct. 23, 2018). “Three-Dimensional Discrete Cosine Transform-Based Feature Extraction for Hyperspectral Image Classification”. In: *Journal of Applied Remote Sensing* 12.4, pp. 1–. URL: <https://lens.org/017-263-908-627-877>
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48. J. M. P. Czarnecki, **S. Samiappan**, L. Wasson, J. D. McCurdy, D. B. Reynolds, W. P. Williams, and R. J. Moorhead (2017). “Applications of Unmanned Aerial Vehicles in Weed Science”. In: *Advances in Animal Biosciences* 8.2, pp. 807–811
49. **S. Samiappan**, G. Turnage, L. A. Hathcock, and R. J. Moorhead (2017). “Mapping of Invasive Phragmites (Common Reed) in Gulf of Mexico Coastal Wetlands Using Multispectral Imagery and Small Unmanned Aerial Systems”. In: *International Journal of Remote Sensing* 38.8-10, pp. 2861–2882. URL: <https://doi.org/10.1080/01431161.2016.1271480>
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Conference/Workshop Proceedings

1. Swarup Bhattarai, **S. Samiappan**, Piyush Chaudhary, Daniel McCraine, and Gray Turnage (2025). “Towards Cost Effective Autonomous Mapping of Invasive Aquatic Plants using Deep Learning and A GPU Enabled Microcomputer”. In: *IGARSS 2025 - 2025 IEEE International Geoscience and Remote Sensing Symposium*, pp. 4472–4475. URL: <https://doi.org/10.1109/IGARSS55030.2025.11243400>
2. Rishita Garg, **S. Samiappan**, Nicolas Anger, Katherine E. Smith, John W. Thomason, and John J. Riggins (2025). “Understanding the Phenology and Mapping of Brown Spot Needle Blight in Loblolly Pines Across Mississippi”. In: *IGARSS 2025 - 2025 IEEE International Geoscience and Remote Sensing Symposium*, pp. 8332–8336. URL: <https://doi.org/10.1109/IGARSS55030.2025.11243287>

3. R Maram, **S. Samiappan**, and S Yoon (2024). “Detection and Classification of Plastic Contaminants on Chicken Meat using Color and Hyperspectral Imaging”. In: *IGARSS 2024 - 2024 IEEE International Geoscience and Remote Sensing Symposium*. URL: <https://doi.org/10.1109/IGARSS53475.2024.10641396>
4. R.P Yadav, **S. Samiappan**, N Gray, and G Turnage (2024). “Mapping High-Resolution UAS imagery: Unveiling the Computational Expenses and Carbon Cost”. In: *IGARSS 2024 - 2024 IEEE International Geoscience and Remote Sensing Symposium*
5. G Turnage, J.S. Wolfe, P Dash, G.D. Chesser, R.J. Moorhead, J Moorhead, D McCraine, L Hathcock, **S. Samiappan**, J.W Lowe, and J Harris (2023). “Real Time Monitoring of Water Quality with an Autonomous Surface Vessel in a Coastal Estuary”. In: *OCEANS 2023 - MTS/IEEE U.S. Gulf Coast*, pp. 1–6. URL: <https://doi.org/10.23919/OCEANS52994.2023.10337340>
6. **S. Samiappan** and R. Bheemanahalli (2021). “Early Detection of Root-Knot Nematode (*Meloidogyne Incognita*) Infestation in Cotton Using Hyperspectral Data”. In: *IGARSS 2021 - 2021 IEEE International Geoscience and Remote Sensing Symposium*, pp. 493–496. URL: <https://doi.org/10.1109/IGARSS47720.2021.9554055>
7. M. Zhou, **S. Samiappan**, E. Worch, and J. E. Ball (2020). “Hyperspectral Image Classification Using Fisher’s Linear Discriminant Analysis Feature Reduction With Gabor Filtering and CNN”. in: *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, pp. 493–496. URL: <https://doi.org/10.1109/IGARSS39084.2020.9323727>
8. E. Worch, **S. Samiappan**, M. Zhou, and J. E. Ball (2020). “Hyperspectral Band Selection Using Moth-Flame Metaheuristic Optimization”. In: *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, pp. 1271–1274. URL: <https://doi.org/10.1109/IGARSS39084.2020.9323754>
9. **S. Samiappan**, A. Shamaskin, J. Liu, A. Linhoss, and K. O. Evans (2020). “Strategic Conservation of Gulf Coast Landscapes Using Multi-Criteria Decision Analysis and Open Source Remote Sensing and GIS Data”. In: *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, pp. 6662–6665. URL: <https://doi.org/10.1109/IGARSS39084.2020.9323166>
10. S. Sawant, P. Manoharan, and **S. Samiappan** (2019). “A Band Selection Method for Hyperspectral Image Classification Based on Cuckoo Search Algorithm With Correlation Based Initialization”. In: *2019 10th Workshop on Hyperspectral Imaging and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, pp. 1–4. URL: <https://doi.org/10.1109/WHISPERS.2019.8920950>
11. J. M. P. Czarnecki and **S. Samiappan** (2019). “A the Application of Structure From Motion Techniques in Late-Season Corn Damage”. In: *2019 Proceedings of Precision Agriculture, Montpellier, France*, pp. 405–411. URL: https://doi.org/10.3920/978-90-8686-888-9_50
12. C. D. McCraine, **S. Samiappan**, J. M. P. Czarnecki, and D. M. Dodds (2019). “Plant Density Estimation and Weeds Mapping on Row Crops at Emergence Using Low Altitude UAS Imagery”. In: *Autonomous Air and Ground Sensing Systems for Agri-*

- cultural Optimization and Phenotyping IV*. ed. by J. Alex Thomasson, Mac McKee, and Robert J. Moorhead. Vol. 11008. International Society for Optics and Photonics. SPIE, pp. 249–257. URL: <https://doi.org/10.1117/12.2520252>
13. **S. Samiappan**, L. Casagrande, G. M. Machado, G. Turnage, L. A. Hathcock, R. J. Moorhead, and J. Ball (2018). “Texture Classification of Very High Resolution UAS Imagery Using a Graphics Processing Unit”. In: *IGARSS 2018 - 2018 IEEE International Geoscience and Remote Sensing Symposium*, pp. 6476–6479. URL: <https://doi.org/10.1109/IGARSS.2018.8519298>
 14. P. Manoharan, S.. Sawant, and **S. Samiappan** (2018). “Texture Classification of Very High Resolution UAS Imagery Using a Graphics Processing Unit”. In: *Proceedings of Asian Conference on Remote Sensing*
 15. L. Casagrande, G. M. Machado, **S. Samiappan**, G. Turnage, L. A. Hathcock, and R. J. Moorhead (2017). “Probabilistic Neural Network and Wavelet Transform for Mapping of Phragmites Australis Using Low Altitude Remote Sensing”. In: *2017 30th SIBGRAPI Conference on Graphics, Patterns and Images (SIBGRAPI)*, pp. 269–276. URL: <https://doi.org/10.1109/SIBGRAPI.2017.42>
 16. R. J. Moorhead, J. M. P. Czarnecki, **S. Samiappan**, and W. B. Henry (2017). “Swimming in Sensors and Drowning in Data: What Is Needed for UASs to Be Effective?” In: *Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping II*. ed. by J. Alex Thomasson, Mac McKee, and Robert J. Moorhead. Vol. 10218. International Society for Optics and Photonics. SPIE, pp. 141–148. URL: <https://doi.org/10.1117/12.2267721>
 17. **S. Samiappan**, G. Turnage, L. A. Hathcock, H. Yao, R. Kincaid, R. J. Moorhead, and S. Ashby (2017). “Classifying Common Wetland Plants Using Hyperspectral Data to Identify Optimal Spectral Bands for Species Mapping Using a Small Unmanned Aerial Systems — A Case Study”. In: *2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 5924–5927. URL: <https://doi.org/10.1109/IGARSS.2017.8128357>
 18. J. M. P. Czarnecki and **S. Samiappan** (2017). “Applications of Unmanned Aerial Vehicles in Weed Science”. In: *Proceedings of 11th European Conference on Precision Agriculture*. Cambridge University Press, Edinburgh, Scotland
 19. **S. Samiappan**, L. Dabbiru, and R. J. Moorhead (2016). “Fusion of Hyperspectral and LiDAR Data Using Random Feature Selection and Morphological Attribute Profiles”. In: *2016 8th Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, pp. 1–4. URL: <https://doi.org/10.1109/WHISPERS.2016.8071662>
 20. **S. Samiappan** and R. J. Moorhead. (2015). “Semi-Supervised Co-Training and Active Learning Framework for Hyperspectral Image Classification”. In: *2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 401–404. URL: <https://doi.org/10.1109/IGARSS.2015.7325785>
 21. L. Dabbiru, **S. Samiappan**, R. A. A. Nobrega, J. A. Aanstoos, N. H. Younan, and R. J. Moorhead. (2015). “Fusion of Synthetic Aperture Radar and Hyperspectral

- Imagery to Detect Impacts of Oil Spill in Gulf of Mexico”. In: *2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1901–1904. URL: <https://doi.org/10.1109/IGARSS.2015.7326165>
22. **S. Samiappan**, L. M. Bruce, H. Yao, Z. Hruska, R. L. Brown, D. Bhatnagar, and T. E. Cleveland. (2013). “Support Vector Machines Classification of Fluorescence Hyperspectral Image for Detection of Aflatoxin in Corn Kernels”. In: *2013 5th Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, pp. 1–4. URL: <https://doi.org/10.1109/WHISPERS.2013.8080645>
 23. **S. Samiappan**, S. Prasad, and L. M. Bruce. (2011). “Automated Hyperspectral Imagery Analysis via Support Vector Machines Based Multi-Classifer System With Non-Uniform Random Feature Selection”. In: *2011 IEEE International Geoscience and Remote Sensing Symposium*, pp. 3915–3918. URL: <https://doi.org/10.1109/IGARSS.2011.6050087>
 24. **S. Samiappan**, S. Prasad, L. M. Bruce, and E. A. Hansen. (2011). “Branch and Bound Based Feature Elimination for Support Vector Machine Based Classification of Hyperspectral Images”. In: *2011 IEEE International Geoscience and Remote Sensing Symposium*, pp. 2523–2526. URL: <https://doi.org/10.1109/IGARSS.2011.6049725>
 25. **S. Samiappan**, S. Prasad, L. M. Bruce, E. A. Hansen, and W. Robles. (2010). “NASA’s Upcoming HypIRI Mission — Precision Vegetation Mapping With Limited Ground Truth”. In: *2010 IEEE International Geoscience and Remote Sensing Symposium*, pp. 3744–3747. URL: <https://doi.org/10.1109/IGARSS.2010.5651974>
 26. S. Prasad, H. Kalluri, L. M. Bruce, and **S. Samiappan** (2010). “Data Dependent Adaptation for Improved Classification of Hyperspectral Imagery”. In: *2010 IEEE International Geoscience and Remote Sensing Symposium*, pp. 68–71. URL: <https://doi.org/10.1109/IGARSS.2010.5653683>
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Other Conference Presentations

1. K. Saravanakumar (Presenter), **S. Samiappan**, J. DeBruyn, and T. Louis (2026). *Spectral Characterization and AI Modeling of Human Decomposition-Impacted Soils Over the Period of One Year*. Oral Presentation, 78th Annual American Academy of Forensic Sciences (AAFS) Scientific Conference, New Orleans, LA, February 9–14
2. J. Kim, N. Wyatt, and **S. Samiappan (Presenter)** (2025). *Satellite-Based Monitoring of Plant Disease in Agricultural Fields*. Paper presentation, IGARSS 2025 - IEEE International Geoscience and Remote Sensing Symposium, Brisbane, Australia
3. B. Santhana Krishnan, **S. Samiappan**, L. R. Jones, J. A. Elmore, E. Schultz, K. O. Evans, B. F. Blackwell, M. B. Pfeiffer, and R. B. Iglay (2022). *Artificial intelligence for de-*

- tection and classification of wildlife from small Uncrewed Aircraft Systems (sUAS) imagery*. 2022 Annual Conference of The Wildlife Society, The Wildlife Society, Spokane, WA. (November 2022)
4. E. Schultz, B. Santhana Krishnan, L. R. Jones, J. A. Elmore, R. B. Iglay, K. O. Evans, and **S. Samiappan** (2022). *Automated image classification with convolutional neural networks for large image datasets: a biologist's perspective*. 2022 Annual Conference of The Wildlife Society, The Wildlife Society, Spokane, WA. (November 2022)
 5. L. R. Jones, J. A. Elmore, B. Santhana Krishnan, E. Schultz, **S. Samiappan**, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *Controllable factors affecting accuracy of human identification of animals in images obtained during small Uncrewed Aircraft Systems (sUAS) surveys*. 2022 Annual Conference of The Wildlife Society, The Wildlife Society, Spokane, WA. (November 2022)
 6. J. A. Elmore, E. Schultz, L. R. Jones, **S. Samiappan**, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *Systematic map effort of using small Unoccupied Aircraft Systems (sUAS) to monitor animals*. 2022 Annual Conference of The Wildlife Society, The Wildlife Society, Spokane, WA. (November 2022)
 7. **S. Samiappan (Author & Presenter)**, A. Shah, L. G. Turnage, and C. McCraine (2022). *Automated classification of aquatic invasive plants using deep learning AI and visible spectrum imagery*. MidSouth Aquatic Plant Management Society annual conference, Mobile, AL. (October 2022)
 8. S. Boopalan, **S. Samiappan**, J. A. Elmore, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *Artificial Intelligence for Detection and Classification of Wildlife From UAS Imagery*. 2022 North America Bird Strike Conference, American Association of Airport Executives, Salt Lake City (July 19, 2022)
 9. J. A. Elmore, E. A. Shultz, L. J. Jones, **S. Samiappan**, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *A Systematic Map of Utilizing Small Unoccupied Aircraft Systems (UAS) to Monitor Wildlife*. 2022 North America Bird Strike Conference, American Association of Airport Executives, Salt Lake City (July 19, 2022)
 10. L. J. Jones, S. Boopalan, E. A. Shultz, J. A. Elmore, **S. Samiappan**, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *Controllable Factors Affecting Accuracy of Human Identification of Wildlife in Images Obtained During UAS Surveys*. 2022 North America Bird Strike Conference, American Association of Airport Executives, Salt Lake City (July 19, 2022)
 11. D. Dehart, S. Boopalan, **S. Samiappan (Author & Presenter)**, J. A. Elmore, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *Aerial Wildlife Image Repository (AWIR) – A Dataset and Collaborative Environment to Label and Classify Wildlife From Aerial Imagery*. 2022 North America Bird Strike Conference, American Association of Airport Executives, Salt Lake City (July 19, 2022)
 12. J. A. Elmore, E. A. Shultz, S. Boopalan, **S. Samiappan**, J. A. Elmore, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *a Systematic Map of Utilizing*

- Small Unoccupied Aircraft Systems (UAS) to Monitor Birds and Other Wildlife*. 2022 American Ornithological Society Conference, San Juan, Puerto Rico. (July 2022)
13. L. J. Jones, E. A. Shultz, S. Boopalan, **S. Samiappan**, J. A. Elmore, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2022). *Controllable Factors Affecting Accuracy of Human Identification of Birds in Images Obtained During UAS Surveys*. 2022 American Ornithological Society Conference, San Juan, Puerto Rico. (July 2022)
 14. P. Ramamoorthy, J. S. Dhillon, **S. Samiappan**, J. M. P. Czarnecki, K. R. Reddy, R. J. Moorhead, and R. Bheemanahalli (2022). *Harnessing the Genetic Potential of Corn Hybrids for Better Synergy With the Cover Crop Farming System*. 4th Annual MAS Summer Science and Engineering Symposium, June 8, Mississippi State University, MS. (Poster presentation)
 15. A. Shrestha, P. Ramamoorthy, A. Ardeshir, C. D. McCraine, **S. Samiappan**, J. M. P. Czarnecki, K. R. Reddy, R. J. Moorhead, and R. Bheemanahalli (2022). *Predicting Yields of Rainfed Grown Cotton Using Unmanned Aerial System Datasets*. 4th Annual MAS Summer Science and Engineering Symposium, June 8, Mississippi State University, MS. (Poster presentation)
 16. P. Ramamoorthy, R. Bheemanahalli, **S. Samiappan**, M. Wubben, A. Shrestha, J. Brooks, and K. R. Reddy (2022). *Hyperspectral Reflectance and Physiological Techniques for Diagnosing Plant Health Status of Cotton Under Drought and Root-Knot Nematode*. Mississippi Academy of Sciences, 86th Annual Meeting, March 31 - April 01, Biloxi, MS. (Poster presentation- Awarded first place)
 17. P. Ramamoorthy, R. Bheemanahalli, N. Wijewardane, **S. Samiappan**, D. Brand, and K. R. Reddy (2022). *Drought and Heat Stress Effects on Physiology, Pollen Germination, and Leaf Reflectance Properties of Corn*. Presented at The Southern Branch of American Society of Agronomy, February 12-14, New Orleans, LA. (Poster)
 18. R. Bheemanahalli, A. Ardeshir, N. N. Kodadinne, C. D. McCraine, A. Shrestha, **S. Samiappan**, J. M. P. Czarnecki, K. R. Reddy, and R. J. Moorhead (2022). *Corn Growth, Leaf Pigments, and Canopy Reflectance Properties in Response to Cover Cropping*. Presented at The Southern Branch of American Society of Agronomy, February 12-14, New Orleans, LA. (Poster)
 19. A. L. Sesser, S. Westlake, J. Roberts, **S. Samiappan**, Y. Allen, T. Hopkins, J. Liu, Y. Liang, and K. O. Evans (2021). *Priority-Driven Decision Support Tools: A Co-Production Case Study From the Gulf of Mexico Region*. American Geophysical Union 2021 Fall Meeting, American Geophysical Union, New Orleans, LA. (December 13, 2021)
 20. **S. Samiappan (Author & Presenter)**, K. O. Evans, A. L. Sesser, S. Westlake, Y. Liang, T. Hopkins, and Y. Allen (2021). *Strategic Conservation Assessment Tool Hub – A Transferable Framework for Conservation Prioritization and Visualization*. American Geophysical Union 2021 Fall Meeting, American Geophysical Union, New Orleans, LA. (December 13, 2021)
 21. **S. Samiappan (Author & Presenter)**, J. A. Elmore, M. Zhou, M. B. Pfeiffer, B. F. Blackwell, R. B. Iglay, and K. O. Evans (2021a). *Aerial Wildlife Image Reposi-*

- tory (AWIR) – A Dataset to Accelerate the Development of Highly Accurate Machine Learning Models to Classify Wildlife From Aerial Imagery*. 2021 Annual Conference of The Wildlife Society, The Wildlife Society, Virtual. (November 2021)
22. M. Zhou, J. A. Elmore, **S. Samiappan (Author & Presenter)**, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2021a). *Classifying Wildlife From Aerial Imagery Using Deep Learning Neural Networks*. 2021 Annual Conference of The Wildlife Society, The Wildlife Society, Virtual. (November 2021)
 23. J. A. Elmore, K. O. Evans, **S. Samiappan**, M. Zhou, M. B. Pfeiffer, B. F. Blackwell, and R. B. Iglay (2021a). *Systematic Map Effort of Using Small Unoccupied Aircraft Systems (sUAS) to Monitor Animals*. 2021 Annual Conference of The Wildlife Society, The Wildlife Society, Virtual. (November 2021)
 24. J. A. Elmore, K. O. Evans, **S. Samiappan**, M. Zhou, M. B. Pfeiffer, B. F. Blackwell, and R. B. Iglay (2021b). *Systematic Map Effort of Using Small Unoccupied Aircraft Systems (sUAS) to Monitor Birds*. 2021 American Ornithological Society Conference, American Ornithological Society, Virtual. (August 2021)
 25. J. A. Elmore, K. O. Evans, **S. Samiappan**, M. Zhou, M. B. Pfeiffer, B. F. Blackwell, and R. B. Iglay (2021c). *Systematic Map Effort of Using Small Unoccupied Aircraft Systems (sUAS) to Monitor Birds*. 2021 North America Bird Strike Conference, American Association of Airport Executives, Virtual. (August 2021)
 26. R. B. Iglay, J. A. Elmore, M. Zhou, K. O. Evans, **S. Samiappan**, M. B. Pfeiffer, and B. F. Blackwell (2021). *The Unpublished Realities of Wildlife Monitoring With Unoccupied Aircraft Systems (UAS): A Survey of End Users*. 2021 North America Bird Strike Conference, American Association of Airport Executives, Virtual. (August 2021)
 27. M. Zhou, J. A. Elmore, **S. Samiappan (Author & Presenter)**, R. B. Iglay, K. O. Evans, B. F. Blackwell, and M. B. Pfeiffer (2021b). *Classifying Wildlife From Aerial Imagery Using Deep Learning Neural Networks*. 2021 North America Bird Strike Conference, American Association of Airport Executives, Virtual. (August 2021)
 28. K. O. Evans, A. L. Sesser, **S. Samiappan**, J. Liu, A. Shamaskin, S. Westlake, Y. Allen, A. Linhoss, and T. Hopkins (2021). *The Strategic Conservation Assessment of Gulf Coast Landscapes: Land Conservation Planning Using a Co-Production Science Approach*. North America 2021 Annual Meeting, International Association of Landscape Ecology – North America, Virtual. (April 14, 2021)
 29. R. B. Iglay, J. A. Elmore, M. Zhou, K. O. Evans, **S. Samiappan**, M. B. Pfeiffer, and B. F. Blackwell (2021). *The Unpublished Realities of Wildlife Monitoring With Unoccupied Aircraft Systems (UAS): A Survey of End Users*. Annual Conference of The Wildlife Society, The Wildlife Society, Virtual. (November 2021)
 30. **S. Samiappan (Author & Presenter)**, R. Bheemanahalli, M. Zhou, and K. R. Reddy (2021a). *Classification of Field Crops Grown Under Soil Salinity Conditions Using Hyperspectral Remote Sensing Algorithms*. Mississippi Academy of Sciences Annual Meeting, Mississippi Academy of Sciences, Biloxi, MS. (Poster) (August 5, 2021)

31. P. Ramamoorthy, R. Bheemanahalli, M. W. Shankle, **S. Samiappan**, and K. R. Reddy (2021). *Effect of Drought Stress on Early Crop Establishment and Its Relevance to Storage Root Development in Sweetpotato*. Mississippi Academy of Sciences Annual meeting, Mississippi Academy of Sciences, Biloxi, MS. (Poster) (August 5, 2021)
32. R. Bheemanahalli, A. Shrestha, N. N. Kodidinne., **S. Samiappan**, J. M. P. Czarnecki, C. D. McCraine, and K. R. Reddy (2021). *Integrated Aerial and Destructive Methods Differentiate Plant Health of Cotton in Response to Cover Cropping*. Mississippi Academy of Sciences Annual Meeting, Mississippi Academy of Sciences, Biloxi, MS. (Poster) (August 5, 2021)
33. **S. Samiappan (Author & Presenter)**, K. O. Evans, A. L. Sesser, S. M. Westlake, Y. Liang, T. E. Hopkins, and Y. Allen (2021). *Strategic Conservation Assessment Tool Hub – A Transferable Framework for Conservation Prioritization and Visualization*. Presented at The American Geophysical Union 2021 Fall Meeting, New Orleans, LA
34. **S. Samiappan (Author & Presenter)**, J. A. Elmore, M. Zhou, M. B. Pfeiffer, B. F. Blackwell, R. B. Iglay, and K. O. Evans (2021b). *Aerial Wildlife Image Repository (AWIR) – A Dataset to Accelerate the Development of Highly Accurate Machine Learning Models to Classify Wildlife From Aerial Imagery*. Presented at The Wildlife Society annual conference (virtual online)
35. **S. Samiappan (Author & Presenter)**, R. Bheemanahalli, M. Zhou, and K. R. Reddy (2021b). *Classification of Field Crops Grown Under Soil Salinity Conditions Using Hyperspectral Remote Sensing Algorithms*. Presented at Mississippi Academy of Sciences Annual Conference, Biloxi, MS
36. A. Shamaskin, **S. Samiappan**, A. Linhoss, and K. O. Evans (2020). *A Land Conservation Visualization Tool for the US Gulf of Mexico Region*. 2020 Bays and Bayous Symposium, National Oceanic and Atmospheric Administration, Virtual Online. (December 3, 2020)
37. **S. Samiappan (Author & Presenter)**, A. Linhoss, K. O. Evans, and A. Shamaskin (2020). *Strategic Conservation Assessment Tool Suite: A Science-Based Data-Driven Land Conservation Tools for the Us Gulf of Mexico Region*. 2020 Bays and Bayous Symposium, National Oceanic and Atmospheric Administration, Virtual Online. (December 3, 2020)
38. K. O. Evans, **S. Samiappan**, and A. Linhoss (2020). *A Land Conservation Prioritization Tool for the Us Gulf of Mexico Region*. 2020 Bays and Bayous Symposium, National Oceanic and Atmospheric Administration, Virtual Online. (December 1, 2020)
39. X. Pan, **S. Samiappan**, and 2020 G. Feng (2020). *Automated Mapping of Land Use/Land Cover in Google Earth Engine Platform Using Landsat Time-Series and MODIS*. International Annual Meeting - The American Society of Agronomy, the Crop Science Society of America, and the Soil Science Society of America Virtual. (November 10, 2020)
40. **S. Samiappan (Author & Presenter)**, M. Zhou, and R. J. Moorhead (2020a). *Identifying Wildlife From Aerial Imagery Using CNNs*. The Wildlife Society 27th

- Annual Conference, The Wildlife Society, Virtual Online. (September 27, 2020)
41. C. D. McCraine, **S. Samiappan**, and R. J. Moorhead (2020). *Overview of sUAS Imagery for Wildlife Monitoring*. The Wildlife Society 27th Annual Conference, The Wildlife Society, Virtual Online. (September 27, 2020)
 42. K. O. Evans, A. L. Sesser, **S. Samiappan**, J. Liu, A. Shamaskin, A. Linhoss, S. Ashby, J. Tirpak, R. Kirpes, and L. W. Burger (2020). *Strategic Conservation Assessment Project: Co-Production Science and Geospatial Technology for Land Conservation Planning in the Gulf of Mexico Region*. North American Congress on Conservation Biology, Society for Conservation Biology, Virtual. (July 2020)
 43. *Strategic Conservation Assessment Tool Suite: A Science-Based Conservation Framework for the US Gulf of Mexico Region* (2020). 2020 Mississippi Water Resources Conference, Mississippi Water Resources Research Institute, Jackson, MS. (April 1, 2020)
 44. A. Shamaskin, K. O. Evans, S. Correa., G. M. Street, A. Linhoss, and **S. Samiappan** (2020). *Considering Estuarine Biotic Health as an Implication of Land Conservation*. Southern Division of the American Fisheries Society,, Little Rock, AR. (February 2020)
 45. **S. Samiappan (Author & Presenter)**, A. Linhoss, K. O. Evans, J. Liu, A. Shamaskin, and S. Ashby (2020). *A Science Based Land Conservation Prioritization Framework Based Multicriteria Acceptability Analysis*. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Gulf of Mexico Research Initiative, Tampa, FL. (February 6, 2020)
 46. A. Shamaskin, **S. Samiappan**, A. Linhoss, J. Liu, and K. O. Evans (2020). *Mapping Hydrologic Response to Land-Use Change in the Gulf Coast*. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Gulf of Mexico Research Initiative, Tampa, FL. (February 6, 2020)
 47. K. O. Evans, J. Roberts, M. Heinemann, **S. Samiappan**, J. Liu, A. Shamaskin, A. Linhoss, S. Ashby, and L. M. Burger (2020). *The Strategic Conservation Assessment of Gulf Coast Landscapes: Land Conservation Planning Tools Using a Co-Production Science Approach*. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Gulf of Mexico Research Institute, Tampa, FL. (February 3, 2020)
 48. R. Bheemanahalli, **S. Samiappan**, N. N. Kodadinne, C. D. McCraine, J. M. P. Czarnecki, A. Ardeshir, and R. J. Moorhead (2020). *Evaluation of Cotton Seeding Performance at Early Growth Stage Following Cover Cropping Using Aerial Imagery*. 2020 ASA-CSSA-SSSA International Annual Meeting, (Poster) (November 2020)
 49. **S. Samiappan (Author & Presenter)**, M. Zhou, and R. J. Moorhead. (2020b). *Identifying Wildlife From Aerial Imagery Using CNNs*. Presented at The Wildlife Society annual conference (virtual online)
 50. **S. Samiappan (Author & Presenter)** and A. Shamaskin. (2020). *A Science-Based Land Conservation Prioritization Framework Based Multicriteria Acceptability Analysis*. Presented at 2020 Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, FL

51. J. Roberts, K. O. Evans, A. Linhoss, J. Liu, **S. Samiappan**, M. Heinemann, and A. Shamaskin (2019). *Evaluating the Social, Economic, and Ecological Benefits of Land Conservation in the Gulf of Mexico*. Coastal and Estuarine Research Foundation, Mobile, AL. (November 2019)
52. A. Shamaskin, K. O. Evans, G. M. Street, S. Correa., A. Linhoss, **S. Samiappan**, and J. Liu (2019a). *Valuing Land Conservation to Support Estuarine Biotic Health in the Gulf of Mexico – A Hierarchical Approach*. Coastal and Estuarine Research Foundation, Mobile, AL. (November 4, 2019).
53. G. Turnage, **S. Samiappan**, L. A. Hathcock, and R. J. Moorhead (2019). *Detection and Differentiation of Phragmites Australis Using Unmanned Aerial Systems Technology*. American Fisheries Society & The Wildlife Society 2019 Joint Annual Conference, The Wildlife Society and American Fisheries Society, Reno, Nevada. (September 29, 2019)
54. A. Shamaskin, K. O. Evans, G. M. Street, S. Correa., A. Linhoss, **S. Samiappan**, and J. Liu (2019b). *Valuing Land Conservation to Support Estuarine Biotic Health in the Gulf of Mexico – A Hierarchical Approach*. The Wildlife Society and American Fisheries Society 2019 Annual Conference, The Wildlife Society and American Fisheries Society, Reno, Nevada. (September 29, 2019)
55. K. O. Evans, J. Roberts, **S. Samiappan**, J. Liu, M. Heinemann, A. Shamaskin, A. Linhoss, J. Tirpak M., S. Ashby, M. Snider, and J. Henkel (2019). *Strategic Conservation Assessment of Gulf Coast Landscapes: Multi-Criteria Decision Analysis Tools Facilitate Gulf Coast Land Conservation*. Ecological Society of America, Louisville, KY. (August 14, 2019)
56. A. Linhoss, J. M. P. Czarnecki, and **S. Samiappan** (2019a). *Remotely Sensing Sediment Tracers*. American Society of Agricultural and Biological Engineers annual meeting, Boston, MA. (July 8, 2019)
57. A. Linhoss, K. O. Evans, **S. Samiappan**, J. Liu, J. Roberts, A. Shamaskin, and S. Ashby (2019). *Comprehensive Review of Plans, Priorities and Efforts for Land Conservation in the Gulf of Mexico Coast*. 2019 Mississippi Water Resources Conference, Mississippi water resources association, Jackson, MS. (April 2, 2019)
58. **S. Samiappan (Author & Presenter)**, A. Linhoss, K. O. Evans, J. Roberts, and A. Shamaskin J. Liu (2019). *Land Conservation Prioritization Using Multi-Criteria Decision Analysis*. 2019 Mississippi Water Resources Conference, Mississippi water resources association, Jackson, MS. (April 2, 2019)
59. A. Linhoss, J. M. P. Czarnecki, and **S. Samiappan** (2019b). *Remotely Sensing Sediment Tracers*. Mississippi Water Resources Conference, Mississippi Water Resources Research Institute, Jackson, MS. (April 2, 2019)
60. J. M. P. Czarnecki, C. D. McCraine, **S. Samiappan**, and D. M. Dodds (2019). *Automated Detection of Weeds in Cotton With Unmanned Aerial Systems*. North MS Producers Advisory Council annual meeting, Mississippi State University, Verona, MS. (Poster) (February 20, 2019)

61. J. Liu, A. Shamaskin, and **S. Samiappan** (2019). *Dynamic Rshiny Applications to Support Gulf of Mexico Land Conservation*. Presented at American Fisheries Society and The Wildlife Society 2019 Joint Annual Conference, Reno, NV (Author)
62. A. Shamaskin, K. Evans, and **S. Samiappan** (2019). *Valuing Land Conservation to Support Estuarine Biotic Health in the Gulf of Mexico – A Hierarchical Approach*. Presented at American Fisheries Society and The Wildlife Society 2019 Joint Annual Conference, Reno, NV (Author)
63. **S. Samiappan (Author & Presenter)** and A. Shamaskin (2019). *Science-Based Land Conservation Prioritization Framework: An Overview*. Presented at Mississippi Water Resource Conference, Jackson, MS
64. G. Turnage, **S. Samiappan**, L. Hathcock, and R. J. Moorhead. (2018). *Detection of Aquatic Plant Species Using UAS Technology*. Presented at 15th International Symposium on Aquatic Plants, Queenstown, New Zealand
65. C. D. McCraine, **S. Samiappan**, G. Turnage, L. Hathcock, H. Yao, R. Kincaid, R. J. Moorhead, and S. Ashby. (2018). *Classifying Common Aquatic Plants Using Hyperspectral Data to Identify Optimal Spectral Bands for Species Mapping Using a Small Unmanned Aerial System – A Case Study*. Presented at the Society of Lake Management Professionals annual conference, Baton Rouge, LA
66. **S. Samiappan**, C. D. McCraine, and L. Hathcock (2017). *Wildfire Mapping and Damage Analysis in Grand Bay National Estuarine Research Reserve, Mississippi Using a Small Unmanned Aerial System With a Multispectral Payload*. Presented at 2017 The Wildlife Society annual conference, Albuquerque, NM
67. G. Turnage, **S. Samiappan (Author & Presenter)**, L. Hathcock, and R. J. Moorhead (2016). *Mapping of Phragmites Australis Using 5-Band Imagery Collected From an Unmanned Aerial System*. Presented at 2016 The Wildlife Society annual conference, Raleigh, NC
68. **S. Samiappan (Author & Presenter)**, A. Crain, and L. Hathcock (2016). *Identification and Estimation of Damage Caused by Feral Hogs in Corn Fields Using Change Detection and an Unmanned Aerial System*. Presented at The Wildlife Society annual conference 2018, Raleigh, NC
69. P. Burr, **S. Samiappan**, and L. Hathcock (2016). *Estimating the Distribution and Abundance of Water Birds on Catfish Aquaculture Facilities Using Imagery Collected From an Unmanned Aerial System*. Presented at The Wildlife Society annual conference 2016, Raleigh, NC
70. G. Turnage, **S. Samiappan (Author & Presenter)**, and L. Hathcock (2016). *Mapping of Phragmites Australis Using 5-Band Imagery Collected From an Unmanned Aerial System*. Presented at Midsouth Aquatic Plant Management Society conference, 12-14 September, Baton Rouge LA
71. **S. Samiappan (Author & Presenter)**, G. Turnage, and R. J. Moorhead. (2016). *Identifying and Mapping Chinese Tallow Tree Using Unmanned Aerial Systems and Multispectral Imagery*. Presented at Midsouth Aquatic Plant Management Society conference, 12-14 September, Baton Rouge LA

- **Ruchitha Yadav Prakash** M.S Computational Engineering, MSU 2023-2024
- **Syed Mohd Farhan** Ph.D Computational Engineering, MSU 2023-2024
- **Dheeraj Srivastava** M.S Ag Engineering - Virginia Tech, Virginia Tech Summer 2022
- **Siva Annamalai** Ph.D Computational Engineering, MSU 2020-2024

Supervising Postdoctoral and Research Associates

- **Yuchuan Fan** Postdoctoral Associate, MSU 2024
- **Meilun Zhou** Research Associate, MSU 2020-2021
- **Joseph Crumpton** Postdoctoral Associate, MSU 2021-2023
- **Santhana Krishnan Boopalan** Postdoctoral Associate, MSU 2021-2023
- **Anup Zope** Postdoctoral Associate, MSU 2022
- **Purushothaman Ramamoorthy** Postdoctoral Associate, MSU 2021 - 2023
- **Lee Hathcock** Ph.D Computer Engineering, MSU 2021-2024

Undergraduate Research

- **Jacob Ramsey** B.S Electrical Engineering and Computer Science, UTK – Edge computing and computer vision 2025-Present
- **Koushik Sanjay Saravana Kumar** B.S Electrical Engineering and Computer Science, UTK – Hyperspectral soil sensing; computer vision for microplastics in agricultural soils 2025-Present
- **Mithun Maria Ruban Raj** B.S Electrical Engineering and Computer Science, UTK – AI models for detecting and classifying weeds in row crops, vegetable production, and turfgrass 2025-Present
- **Cindy Salinas Avelino** B.S Plant Science and Bioinformatics, UTK – Hyperspectral sensing of oak wilt disease 2026-Present
- **Piyush Chaudary** B.S Computer Science, MSU 2024
- **Swarup Bhattarai** B.S Electrical Engineering, MSU 2024
- **Jennefer Jones** B.S Electrical Engineering (Honors), MSU 2023-2024
- **Nick Gray** B.S Electrical Engineering, MSU 2023-2024
- **Leon Kohler** B.S Mechanical Engineering, MSU 2022-2024
- **Damion Dehart** B.S Computer Science, MSU 2021-2022
- **Jacob Lee** B.S Computer Science (Honors), MSU 2021-2023
- **Ashutosh Shah** B.S Mechanical Engineering, MSU 2021-2022
- **Ethan Worch** B.S Computer Engineering, MSU 2019-2020

- **Meilun Zhou** B.S Computer Engineering, MSU 2019-2020
- **Cary Daniel McCraine** B.S Electrical Engineering, MSU 2017-2018
- **Donna Jaison** B.S Electrical Engineering, MSU 2016
- **Preston Stinson** B.S Computer Engineering, MSU 2015
- **Luan Carlos da Silva Casagrande** B.S Computer Science, Universidade Federal de Santa Catarina, Brazil Summer 2015

Advising - Honors Thesis and Senior Design Teams

- **Jacob Lee** Honors Thesis (MSU) : Estimation of Soil total carbon in croplands using hyperspectral remote sensing and deep learning neural networks 2023
- **Cary Daniel McCraine et al.** Senior Design (MSU): ivWatch Sensor Test Bench System 2018
- **Luan Carlos da Silva Casagrande** Honors Thesis (Universidade Federal de Santa Catarina, Brazil): Comparative Study of Image Texture analysis And Machine Learning Methods For classification of phragmites Australis using True-Color High Resolution Images 2017
- **Manoj Kumar et al.** Senior Design (MSU): Non-Chronological Dynamic Video Abstraction using Rack Through Method 2009
- **Sylvania Golla et al.** Senior Design (MSU): Extracting Cricket Game Summaries via Frame Clustering 2008
- **Arunchander Kalyanasamy et al.** Senior Design (MSU): Video object based Content-Based Video Retrieval system 2007
- **Kaushik Prakash et al.** Senior Design (MSU): Resolution Enhancement of Color Video Sequences 2007

Courses Taught

Taught approximately 28 sections of 11 different courses at the undergraduate and graduate levels resulting in more than 1500 students. Maintained a high level of dedication to teaching, resulting in instructor evaluation scores averaging 4.3/5.0. (*Most recent teaching evaluations can be found in the application packet*)

- ESS 494 Foundations of Artificial Intelligence for Agriculture and Natural Resources (UTK) Fall 2025
- ESS 593/493 Applications of Artificial Intelligence for Agriculture and Natural Resources (UTK) Spring 2026

- ECE 7000 Directed Individual Study - Special topics in machine learning for wildlife monitoring using aerial images (MSU) Spring 2022
- ECE 7000 Directed Individual Study - Special topics in Computer Vision (MSU) Fall 2021
- ECE3413 Introduction to Electric Circuits (MSU) Fall 2015, Fall 2017, Spring 2020, Fall 2022, Spring 2023, Fall 2023
- ECE3443 Signals and Systems (Amrita and MSU) Fall 2006, Fall 2014, Summer 2023
- ECE3714 Digital Devices and Logic Design - Laboratory (MSU - Teaching Assistant) 2012-2014
- EC3072 Digital Communication (Amrita) Spring 2009, Spring 2007
- EC5049 Adaptive Signal Processing (Amrita) Fall 2008, Fall 2007
- EC3091 Analog Communication (Amrita) Fall 2008, Fall 2007
- EC3020 Digital Signal Processing (Amrita) Spring 2008, Spring 2007
- EC5084 Digital Image Processing (Amrita) Spring 2008

SERVICE

Professional Contributions

- Session Chair (MOP2.PB: AI-Driven Digital Twins and 3D Modeling for Earth and Infrastructure Systems) - IEEE IGARSS September 2026 (Invitation Accepted)
- Session Chair (TUP1.PB: Hyperspectral Image Classification and Analysis) - IEEE IGARSS September 2026 (Invitation Accepted)
- Conference Technical Committee - 2026 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Washington D.C 2025-2026
- Associate Editor - Springer, Neural Processing Letters 2025-Present
- Panelist - USDA National Institute of Food and Agriculture (NIFA) Proposal Review Panel (reviewed nine proposals; four-day panel) 2025
- Ad-Hoc Panel Reviewer - U.S. National Science Foundation (NSF) SBIR/STTR February 2025
- External Examiner - PhD theses, Vellore Institute of Technology (India) and Amrita University (India) – four dissertations 2025
- Manuscript Reviewer - Methods in Ecology and Evolution; Environmental Reviews (Canadian Science Publishing) 2025
- Associate Editor - Frontiers in Plant Science - Integrating Visual Sensing and Machine Learning for Advancements in Plant Phenotyping and Precision Agriculture
- Associate Editor - Hyperspectral Imaging Technology Empowers Precision Seed Quality Assessment

- Session Champion - Technical session on Gulf of Mexico Initiatives at the 2023 IEEE Oceans Conference & Exposition (OCE) September 2023
- Session Chair (Sonar Signal/Image Processing 1) - OCE September 2023
- Session Chair (Sonar Signal/Image Processing 2) - OCE September 2023
- Session Chair (Gulf of Mexico Initiatives) - OCE September 2023
- Session Chair (Remote Sensing 1) - IEEE OCE September 2023
- Session Chair - IEEE International Geoscience and Remote Sensing Symposium, Brussels, Belgium July 2021
- Guest Editor - MDPI-Remote Sensing (Impact Factor 4.8) - Special Issue "Wavelet Transform for Remote Sensing Image Analysis" July 2020-2022
- Workshop Lecture - IEEE Geoscience and Remote Sensing Society Summer School (GR4S) "Image Analysis using Trimble eCognition" July 2018
- Conference Keynote - International Virtual Conference on Recent Trends, Challenges in Image Analysis & Information Security "Applications of unmanned aerial system for remote sensing and aerial image analysis" September 2018
- Peer Reviewer - Reviewed for over 30 top-tiered journals in engineering and science [Publons Review Verification](#)

Invited Talks and Seminars

- Invited Talk - NSF International Workshop: Transforming Small Farms into Circular Bioeconomy Systems, University of Tennessee at Knoxville November 2025
- Invited Seminar - "Data driven conservation prioritization tools for land conservation," Armsworth Lab, Department of Ecology and Evolutionary Biology, University of Tennessee at Knoxville April 2025

University Service

- Herbert Student Recruitment Committee - BESS representative, University of Tennessee Institute of Agriculture 2025-Present
- Search Committee - Tenure-track Assistant/Associate Professor (EECS), Tickle College of Engineering, UTK 2025
- Peer Teaching Evaluator, Department of Biosystems Engineering and Soil Science, UTK Spring 2025
- State of Mississippi - Unmanned Aerial Systems curriculum for Career and Technical Education programs – Member of curriculum development team 2017-October 2024
- Evaluator – Graduate Student Research Symposium (GSRS) , MSU 2016-2024

- Evaluator – Honors Undergraduate Student Symposium, MSU 2015-2024
- Faculty Mentor, Day One – Montgomery Leadership Program Day One is a service-learning community for entering freshmen in which students take a two-credit course on leadership and apply what they learn towards 20 hours of community service in the fall semester. This is offered out of the Office of Student Leadership and Community Engagement. A Mentor is a faculty who guides a single team of 5-7 students towards the completion of its community service project over the semester. Mentors help coordinate the efforts of the team with the needs of the community and help the team members develop their leadership skills. 2015-2018
- Team Mentor, Dawg Daze, MSU Dawg Daze is an exciting collection of service, other activities and events held to welcome new freshmen & transfer students to Mississippi State. 2015 and 2016
- American Cancer Foundation – Volunteer 2014-2017

COMPUTER SKILLS

- Programming: Python, Matlab, C, C++, Java, and R
- Platforms: Windows, Linux, Linux/Unix high performance computing
- Packages: Keras, PyTorch, NumPy, LibSVM
- Misc: Microsoft Office, LaTeX, and cloud based collaborative tools such as Office 365

MEMBERSHIPS

- North American Colleges and Teachers of Agriculture (2025-Present)
- American Association for the Advancement of Science 2025-Present
- Institute of Electrical and Electronics Engineers(IEEE) (2012-Present)
- IEEE Eta Kappa Nu (HKN) International Honor Society (2014-Present)
- The Wildlife Society (2016-2022)
- American Geophysical Union (2021-2022)
- Life Member, The Institution Of Electronics and Telecommunication Engineers (IETE)

HONORS

- Herbert Teaching Fellowship - Inaugural cohort, University of Tennessee 2025-2027
- IEEE Eta Kappa Nu (HKN) International Honor Society
- Full Graduate Research Assistantship, Mississippi State University (2009-14)
- Full Graduate Teaching Assistantship, Mississippi State University (2009-14)

MEDIA COVERAGE

- Hyperspectral Data: New Science to Save Islands [Published in IslandConservation.org](#)
- Drones gauge wild pigs' damage to crops [Published in wildlife.org](#)
- When invasive plants attack, a new tech tool can nip it in the bud [Published in Mississippi Today](#)
- MSU coastal researchers get to throw out their muddy boots in favor of drone [Published in The Times – Picayune](#)
- Assessment of Wild Pig Damage in Mississippi Crop Fields [Published by Mississippi Soy Promotion Board](#)
- Eating the Elephant: The Strategic Conservation Assessment for the Gulf Coast [URL](#)
- MSU Collinsville resident's research project recognized at summer undergraduate research symposium [URL](#)
- MSU wildlife professor published drone study that analyzes animals near airports [URL](#)
- Eyes in the Skies: FWRC scientists look to drones to identify potential flight disruptions [URL](#)