DEBZANI DEB

RJ Reynolds Endowed Professor of Computer Science
Founding Director, Center for Applied Data Science (CADS)
Winston-Salem State University
Winston-Salem, NC 27110, USA

Phone: (336) 750-2496
Cell: (406) 640-0491
Fax: (336) 750-2499
E-mail: debd@wssu.edu
Web: https://www.wssu.edu/profiles/debd/

RESEARCH INTERESTS

Applied Data Science, Machine Learning, Parallel and Distributed Systems, and Computer Science Education.

EDUCATION

2004-2008: Ph.D. in Computer Science, Montana State University, Bozeman, Montana, USA.
   Thesis: Achieving Self-managed Deployment in a Distributed Environment via Utility Functions.

2000-2001: Masters' of Computer Science, University of Adelaide, Adelaide, South Australia, Australia.
   Thesis: A study of Consistency Protocols for Distributed Shared Memory Systems.

1995-1996: M. Sc. in Electronics & Computer Science, Shahjalal Uni. of Science and Tech., Bangladesh.
   Thesis: 3D Vision Using Anaglyph Imagery.

1992-1995: B.Sc. in Electronics & Computer Science, Shahjalal Uni. of Science and Tech., Bangladesh.

ACADEMIC APPOINTMENTS

2022 – now: Professor, Dept. of Computer Science, Winston Salem State University, USA.

2020 – now: Founding Director, Center for Applied Data Science, Winston Salem State University, USA.

2017- 2022: Associate Professor, Dept. of Computer Science, Winston Salem State University, USA.

2011 - 2017: Assistant Professor, Dept. of Computer Science, Winston Salem State University, USA.

2009 - 2011: Assistant Professor, Dept. of Computer Science, Indiana University of Pennsylvania, USA.

Spring, 2009: Lecturer, Dept. of Computer Science, University of North Carolina at Greensboro, USA.

Fall, 2008: Adjunct Faculty, Dept. of Mathematics & Computer Science, High Point University, USA.

2007: Adjunct Instructor, Department of Computer Science, Montana State University, USA.

2006: Teaching Assistant, Department of Computer Science, Montana State University, USA.

2004 - 2005: Research Assistant, Department of Computer Science, Montana State University, USA.

2001: Research Assistant, Department of Computer Science, University of Adelaide, Australia.

2000 - 2003: Assistant Professor, Department of Computer Science & Engineering, Shahjalal University of Science and Technology, Sylhet, Bangladesh.

1997 - 2000: Lecturer, Department of Electronics & Computer Science, Shahjalal University of Science & Technology, Sylhet, Bangladesh.

MEDIA RELEASE

1. Winston-Salem Journal: "Transforming the Triad with data science", March 2021 https://journalnow.com/opinion/columnists/debzani-deb-transforming-the-triad-with-data-science/article_0ee266c2-8d98-11eb-8437-733ef5f112ac.html
2. UNC News Story: "WSSU awarded $1.5M grant to establish new Center for Applied Data Science", September 29, 2020. https://web.archive.org/web/20240423043347/https://www.northcarolina.edu/news/wssu-awarded-1-5m-grant-to-establish-new-center-for-applied-data-science/

TEACHING EXPERIENCES (LAST 5 YEARS)

1. Graduate Courses
   1. CST 6320 Data Visualization ***
   2. CST 5320 Design and Analysis of Algorithms
   3. CST 6302 Programming Languages
   4. CSC 5322 Parallel Computing
   5. CSC 5310 Big Data and Cloud Computing ***
2. Undergraduate Courses
   1. CSC 3331 Analysis of Algorithms
   2. CSC 4350 Software Engineering
   3. CSC 4322 Parallel Computing
   4. CSC 4310 Big Data and Cloud Computing ***
   5. CSC 2315 Applied Data Science ***
   *** I proposed these new courses and developed after receiving approvals

CURRICULUM DEVELOPMENT EXPERIENCES

- **Data Science Minor** (2020-Now): Lead the joint effort of Center for Applied Data Science (CADS) and the Department of Computer Science at WSSU to develop an interdisciplinary Data Science Minor beginning in Fall 2021. The Data Science Minor requires 6 courses (18 credit hours) – including 3 foundational courses in data science and statistics and 3 approved elective courses offered at various academic departments.
- **Faculty Adopter Awards** (2017- now): Developed and implemented a program known as "Faculty Adopter Award" that provides support to the faculties across various disciplines at WSSU in including data analytics as modules into their existing courses. These ongoing awards are supported by Dr. Deb's existing multiple NSF (1600864, 1912214) and UNC ROI grants. Since 2017, this collaborative effort supported 13 faculty in developing 13 course modules on data analytics and impacted ~ 275 WSSU students across Computer Science, Healthcare Management, Mathematics, Management and Marketing, Physical Therapy, Psychological Science, Sports Studies, and Social Science departments. Developed course modules are available in https://github.com/CADS-WSSU/2021-2022-Faculty-Adopter-Modules.
- **Integrating Data Science into the Urban Studies and Sustainability Curriculum** (2019-now): Designed and developed three autonomous hands-on course modules on data science and urban studies for IDS 2301 (Introduction to Urban Studies), GEO 4342 (GIS Concepts and Techniques), and GEO 4345 (Applied Urban Studies Lab) courses. This effort is supported by NSF award 1912214.
- **Curriculum Guidelines on Parallel and Distributed Computing** (2018-now): Prasad, S. K., Estrada, T., Ghafoor, S., Gupta, A., Kant, K., Stunkel, C., Sussman, A., Vaidyanathan, R., Weems, C., Agrawal, K., Barnas, M., Brown, D. W., Bryant, R., Bunde, D. P., Busch, C., **Deb, D**., Freudenthal, E., Jaja, J., Parashar, M., Phillips, C., Robey, B., Rosenberg, A., Saule, E., Shen, C. 2020. NSF/IEEE-TCPP Curriculum Initiative on Parallel and Distributed Computing - Core Topics for Undergraduates, Version II-beta, Online: http://tcpp.cs.gsu.edu/curriculum/. This is a multi-institution initiative and was funded by NSF Award # 2002649.

- **Graduate Certificate in Data Analytics** (2019-2021): Key member of a committee that developed the online Graduate Certificate in Data Analytics program and associated courses at WSSU. The program is designed for those with a BS or BA degree (in any field) and who desire to work in health care, computer science, business, education, and other fields. 2019-2021

GRANTS

Awarded

1. NSF, **Co-PI**, "CISE-MSI: RCBP-RF: SCH: Mining Mobile Crowdsensing to Optimize Community Health Clinic Management", $299,695.00, 2021-2023. https://www.nsf.gov/awardsearch/showAward?AWD_ID=2131100&HistoricalAwards=false
2. HanesBrands Inc, PI, "Research Award to the Center for Applied Data Science (CADS) at WSSU", $50,000, 2022-2025**.**
3. UNC Research Opportunities Initiative (ROI) award, **PI**, "Winston-Salem State University Center for Applied Data Science (CADS)", $1,498,625, 2020-2023. https://www.northcarolina.edu/news/unc-system-awards-three-roi-grants-for-2021-2023/
4. Google Cloud Research Grant, **PI**, $5000, 2020-2021.
5. NSF, **Co-PI**, "Collaborative Research: Excellence in Research: Computational Framework and Data Science for Identification", Award Number: 1900087, $299,962, 2019-2022. https://www.nsf.gov/awardsearch/showAward?AWD_ID=1900087
6. NSF, **Co-PI**, "Targeted Infusion Project: "Integrating Data Science into the Urban Studies and Sustainability Program", Award Number: 1912214, $249,825.00, 2019-2022. https://www.nsf.gov/awardsearch/showAward?AWD_ID=1912214
7. NSF, **Senior Personnel**, "Collaborative Research: Cybertraining: Conceptualization: Planning a Sustainable Ecosystem for incorporating parallel and distributed computing into undergraduate education", Award Number:2002649, $423,921, 2019-2021. https://www.nsf.gov/awardsearch/showAward?AWD_ID=1924272
8. NSF, **PI**, "Improving Research and Education of Big Data and Cloud Computing at Winston-Salem State University", Award Number: 1600864, $307,802, 2016 – 2021. https://www.nsf.gov/awardsearch/showAward?AWD_ID=1600864
9. WSSU, **PI**, RIP Award: "Utility-based Resource Provisioning of Big Data Applications on Cloud Environment", $9,690, 2016 – 2017.
10. WSSU Office of Science Initiatives (OSI) Teaching Innovation Award, **PI**, "Using Peer Instruction to Improve Student Engagement", $2,500, 2016 – 2017.
11. Google Community Tech Grant, **Co-PI**, "Increase awareness of computer science and technology among the under-resourced community of East Winston-Salem", $83,000, 2016 – 2017.
12. TCPP/NSF, **PI**, "CDER Center Early Adopter Award for Curriculum Initiative on Parallel and Distributed Computing", $2500, 2015-2016.
13. NSF, **Co-PI**, "Targeted Infusion Project: Use of Mobile Application to Improve Active Learning and Student Participation in the Computer Science Classroom", Award Number: 1332531, $235,091, 2013-2017. https://www.nsf.gov/awardsearch/showAward?AWD_ID=1332531
14. Indiana University of Pennsylvania(IUP) senate Fellowship Grant, **PI**, "Preliminary Investigation on Utilizing Smartphones in Higher Education", $12,000, 2010-2011.

PUBLICATIONS

Google Scholar Link

Peer Reviewed Journal and Series Publications

1. Mickle, C., **Deb, D**. "Early prediction of patient discharge disposition in acute neurological care using machine learning", BMC Health Services Research **22**, 1281 (2022), Published by Springer Nature, https://doi.org/10.1186/s12913-022-08615-w (Scopus CiteScore: 3.9)

2. Panlaqui, B-J, Fuad, M., **Deb, D.**, Mickle C. "Path Forming of Healthcare Practitioners in an Indoor Space Using Mobile Crowdsensing". Sensors, Published by MDPI, 22(19):7546, 2022, https://doi.org/10.3390/s22197546 (Scopus CiteScore: 6.4)

3. **Deb, D.**, Smith, R. M. "Application of Random Forest and SHAP Tree Explainer in Exploring Spatial (In)Justice to Aid Urban Planning", International Journal of Geo Information (ISPRS), Published by MDPI, Vol. 10(9), 2021, https://doi.org/10.3390/ijgi10090629 (Scopus CiteScore: 6.1)

4. **Deb, D.**, Fuad M., "Integrating Big data and Cloud Computing Topics into the Computing Curricula: A modular Approach", Journal of Parallel and Distributed Computing (JPDC), Published by Elsevier, Vol. 157, 2021, pp. 303-315. https://doi.org/10.1016/j.jpdc.2021.07.012 (Scopus CiteScore: 9.8)

5. Taylor G., **Deb, D.**, "Teaching AI Ethics in a Flipped Classroom", Journal of Computing Sciences in Colleges, Vol. 36, No. 5, 2021, pp. 67-76.

6. Fuad M., **Deb, D.**, James E. and Gloster C., "Mobile Response System: A Novel Approach to Deliver Interactive and Hands-on Activity in the Classroom", Journal of Educational Technology Research and Development, Published by Springer Nature, Vol. 66, No. 2, 2018, pp. 493- 514. https://doi.org/10.1007/s11423-018-9570-5 (Scopus CiteScore: 7.7)

7. Fuad, M., **Deb, D.** and Baek J., "Static Analysis, Code Transformation and Runtime Profiling for Self-healing", Journal of Computers (JCP), Vol. 8, No. 5, 2013, pp. 1127-1135.

8. **Deb, D.**, Fuad M., and Oudshoorn M. J, "Achieving self-managed deployment in a distributed environment", Journal of Computational Methods in Science and Engineering (JCMSE), Vol. 11, Issue 3, Supplement 1, 2011, pp. 115-125.

9. **Deb, D.**, Fuad M., and Oudshoorn M. J., "ADE: Utility Driven Self-management in a Networked Environment", Journal of Computers (JCP), Academy Publishers, USA, Vol. 2, No. 9, 2007.

10. Oudshoorn, M. J., Fuad M., and **Deb, D.**, "Towards Autonomic Computing: Injecting Self-Organizing and Self-Healing Properties into Java Programs", New Trends in Software Methodologies, Tools and Techniques, Volume 147 of Frontiers in Artificial Intelligence and Applications, IOS Press, Amsterdam, The Netherlands, 2006, pp. 384- 406.

Peer Reviewed Journal Papers Submitted and Currently Under Review

1. W. Nick, T. Pittman, A. Akinola, D. Deb and T. D. Presley, "Measuring the Affectiveness of Musical Genres on the African American Population using Galvanic Skin Response and Emotional Frequency Measures", Submitted to Psychology of Music, SAGE Publishing, Under Review.

2. Doris Molina-Henry, Debzani Deb, "Investigating social context factors as predictors of cognitive status among community members: a machine-learning based approach", Submitted to *Heath Systems Journal*, Taylor and Francis, Under Review.

Peer Reviewed Conference Publications

1. M. Fuad, **D. Deb**, B. -J. G. Panlaqui and C. F. Mickle, "Using RSSI to Form Path in an Indoor Space," 2022 International Conference on Computer Communications and Networks (ICCCN)*, 2022, pp. 1-2, doi: 10.1109/ICCCN54977.2022.9868912.

2. C. F. Mickle and **D. Deb**, "Predicting Patient Discharge Disposition in Acute Neurological Care," *2021 IEEE Symposium Series on Computational Intelligence (SSCI)*, 2021, pp. 1-8, doi: 10.1109/SSCI50451.2021.9659904.

3. M. Fuad and **D. Deb**, "Using Real-World Problems to Explore and Improve Students' Understanding of Parallelism Concepts," 2021 IEEE Global Engineering Education Conference (EDUCON), 2021, pp. 57-62, doi: 10.1109/EDUCON46332.2021.9453912.

4. **D. Deb** and M. Guirguis, "Use of Auxiliary Classifier Generative Adversarial Network in Touchstroke Authentication," 2020 19th IEEE International Conference on Machine Learning and Applications (ICMLA), 2020, pp. 252-257, doi: 10.1109/ICMLA51294.2020.00049.

5. **D. Deb** and R. M. Smith, "Use of Machine Learning in Exploring Spatial (In)Justices[1]," 2020 19th IEEE International Conference on Machine Learning and Applications (ICMLA), 2020, pp. 1211-1217, doi: 10.1109/ICMLA51294.2020.00191.

6. W. Monroe et al., "Lightning Talks of EduHPC 2019," 2019 IEEE/ACM Workshop on Education for High-Performance Computing (EduHPC), 2019, pp. 25-31, doi: 10.1109/EduHPC49559.2019.00009.

7. M. Fuad, M. Akbar, L. Zubov and **D. Deb**, "Out-of-class Activities: What Have We Been Doing and How We Can Change it for the Future," 2019 14th International Conference on Computer Science & Education (ICCSE), 2019, pp. 714-719, doi: 10.1109/ICCSE.2019.8845513.

8. D. Aggarwal, et al., "EduPar Posters," in 2019 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW), Rio de Janeiro, Brazil, 2019 pp. 347-349. https://doi.ieeecomputersociety.org/10.1109/IPDPSW.2019.00065

9. **Deb, D.**, Fuad, M., Irwin, K., "A Module-based Approach to Teaching Big data and Cloud Computing Topics at CS Undergraduate Level", 50th ACM SIGCSE Conference, March 2019, pp. 2-8. DOI: https://doi.org/10.1145/3287324.3287494

10. **D. Deb**, S. Cousins and M. Fuad, "Teaching Big Data and Cloud Computing: A Modular Approach," 2018 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW), 2018, pp. 377-383, doi: 10.1109/IPDPSW.2018.00070.

11. **Deb, D.**, Fuad, M., James, E. and Gloster, C., "MRS: Automated Assessment of Interactive Classroom Exercises", 49th ACM SIGCSE Conference, February 2018, pp. 290-295, https://doi.org/10.1145/3159450.3159607

12. Prasad, S., Weems, C., Dougherty, J., **Deb, D.**, "NSF/IEEE-TCPP Curriculum Initiative on Parallel and Distributed Computing –Status Report", Special Session at 49th ACM SIGCSE conference, February 2018, pp. 134-135, https://doi.org/10.1145/3159450.3159632

13. Fuad, M. and **Deb, D.**, "Back to the Basics: Read Critically, Reflect Prudently and Write Analytically", 20th IEEE International Conference on Computer and Information Technology, December 2017.

14. M. M. Fuad and **D. Deb**, "Cloud-Enabled Hybrid Architecture for In-Class Interactive Learning Using Mobile Device," 2017 5th IEEE International Conference on Mobile Cloud Computing, Services, and Engineering (MobileCloud), 2017, pp. 149-152, doi: 10.1109/MobileCloud.2017.15.

15. **Deb, D.**, Fuad, M. and Kannan, M., "Creating Engaging Exercises with Mobile Response System (MRS)", 48th ACM SIGCSE Conference, March 2017, pp. 147-152, https://doi.org/10.1145/3017680.3017793

16. Fuad, M., **Deb, D.**, James, E. and Gloster, C., "Using Interactive Exercise in Mobile Devices to Support Evidence-based Teaching and Learning", 21st ACM Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE), July 2016, pp. 17-22, https://doi.org/10.1145/2899415.2899467

17. Fuad, M., **Deb, D.** and Whitaker, S., "Mobile Interactive Problem Solving for Active Teaching and Learning", 8th IEEE International Conference on Electrical and Computer Engineering, December 2014, pp. 836-839.

18. **Deb, D.**, Fuad, M. and Farag, W. "Developing Interactive Classroom Exercises for use with Mobile Devices to Enhance Class Engagement and Problem-solving Skills", IEEE Frontiers of Education Conference (FIE) Proceedings, October 2014, pp. 343-346.

19. Fuad, M., **Deb, D.** and Etim, J., "An Evidence Based Learning and Teaching Strategy for Computer Science Classrooms and its Extension into a Mobile Classroom Response System", Proceedings of the 14th IEEE International Conference on Advanced Learning Technologies (ICALT), July 2014, pp. 149-153.

20. Fuad, M. and **Deb, D.**, "Design and Development of a Mobile Classroom Response System for Interactive Problem Solving", Proceedings of the 26th International Conference on Software Engineering and Knowledge Engineering (SEKE), July 2014, pp. 49-52.

21. Farag, W., Ali, S. and **Deb, D.**, "Does Language Choice Influence the Effectiveness of Online Introductory Programming Courses?", Proceedings of the14th annual ACM SIGITE conference on Information technology education (SIGITE 13), October 2013, pp. 165-170.

22. **Deb, D.**, Gonzales, L., and Geda, M., "Software Engineering Projects with Social Significance: An Experience Report at a Minority University", Proceedings of the 26th IEEE International Conference on Software Engineering Education and Training (CSEE&T), May 2013.

23. Fuad, M., **Deb, D.,** and Baek, J., "Self-healing by means of Runtime Program Profiling", 14th IEEE International Conference on Computer and Information Technology, December 2011, pp. 202-207.

24. **Deb, D.,** "Achieving Self-Optimization via Utility Functions", Proceedings of the 19th International Conference on Software Engineering and Data Engineering (SEDE 2010), June 2010.

25. Fuad, M. and **Deb, D.**, "Similarity Mapping of Software Faults for Self-Healing Applications", 48th ACM Southeast Conference, April 2010.
26. **Deb, D.**, Oudshoorn, M. J. and Paxton, J., "Self-Managed Deployment in a Distributed Environment via Utility Functions", Proceedings of the 20th International Conference on Software Engineering and Knowledge Engineering (SEKE 08), July 2008, pp. 808-813.
27. Fuad, M., **Deb, D.** and Oudshoorn, M. J., "An Autonomic Element Design for a Distributed Object System", Proceedings of the ISCA 20th International Conference on Parallel and Distributed Computing Systems (PDCS 2007), September 2007, pp. 273-279.
28. **Deb, D.** and Oudshoorn, M. J., "On Utility Driven Deployment in a Distributed Environment", Proceedings of the Fourth IEEE Workshop on Engineering of Autonomic Systems (EASe 2007), March 2007, pp. 14-23.
29. **Deb, D.** and Angryk, R., "Distributed Document Clustering Using Word-clusters", Proceedings of the 2007 IEEE Symposium on Computational Intelligence and Data Mining (CIDM), 2007, pp. 376-383.
30. Fuad M., **Deb, D.** and Oudshoorn, M. J., "Adding Self-Healing Capabilities into Legacy Object Oriented Applications", International Conference on Autonomic and Autonomous Systems, July 2006, pp. 51-56.
31. **Deb, D.,** Fuad, M., and Oudshoorn, M. J., "Towards Autonomic Distribution of Existing Object Oriented Programs", International Conference on Autonomic and Autonomous Systems, July 2006, pp. 17-23.
32. **Deb, D.**, Fuad, M., and Angryk, R., "Distributed Hierarchical Document Clustering", The IASTED International Conference on Advances in Computer Science and Technology, 2006, pp. 328-333.
33. Oudshoorn, M. J, Fuad, M. and **Deb, D.,** "Towards an Automatic Distribution System - issues and challenges", Proceedings of the International Conference on Parallel and Distributed Computing and Networks, PDCN 2005, February 2005, pp. 399-404.
34. Hossain, M. S., Fuad, M., **Deb, D.**, Khan K. M. N. H, Joarder M. M. A, "Load Balancing in a Networked Environment through Homogenization", Proceedings of the International Conference on Cybernetics and Information Technologies (CITSA 2004), July 2004, pp. 99-104.
35. Hossain, M. S., Fuad, M., **Deb, D.**, Khan, K. M. N. H., and Joarder, M. M. A., "Homogenization: A Mechanism for Distributed Processing across a Local Area Network", Workshop on Communication Abstractions for Distributed Systems in the ECOOP 2004 Conference, June 2004.

Peer Reviewed Poster Abstracts

1. **Deb, D.**, Jones, E., "University-wide Adoption of Data Science", 51th ACM SIGCSE Conference, February 2020. https://doi.org/10.1145/3328778.3372657
2. **Deb, D.**, Smith, R. M., and Fuad, M. "Infusing Data Science Across Disciplines", In Proceedings of the 2019 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE), July 2019. https://doi.org/10.1145/3304221.3325579
3. **Deb, D.**, Fuad, M., Irwin, K., "An Alternative Approach to Teaching Big data and Cloud Computing Topics at CS Undergraduate Level", Poster abstract at International Conference for High Performance Computing, Networking, Storage and Analysis (Supercomputing'18), November 2018.
4. **Deb, D.** "Impact of Peer Instruction and Instructional Scaffolding on a Programming Course" 18th Annual Conference on Information Technology Education (SIGITE '17), October 2017. https://doi.org/10.1145/3125659.3125711
5. **Deb, D.**, "On the Integration of Big Data and Cloud Computing Topics", 48th ACM SIGCSE, March 2017.
6. Fuad, M. and **Deb, D.**, "Evidence-based Teaching with the Help of Mobile Response System (MRS), 21st ACM Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE), July 2016, Page 242-243. https://doi.org/10.1145/2899415.2925498
7. **Deb, D.** and Fuad, M., "Use of Mobile Application to Improve Active Learning and Student Participation in the Computer Science Classroom", Proceedings of the ACM SIGCSE Conference, March 2014. https://doi.org/10.1145/2538862.2544291

MENTORING

POST-DOCTORAL RESEARCH ASSOCIATE

1. Dr. Kiayia Propst, Post-doctoral Research Associate, CADS, WSSU, 2021-todate.
2. Dr. William Nick, Post-doctoral Research Associate, CADS, WSSU, 2021.

POST GRADUATE RESEARCH ASSOCIATE

1. Brixx-John Garcia Panlaqui, Research Associate, CADS, WSSU, 2022-todate.
2. Charles Mickle, Research Associate, CADS, WSSU, 2021-todate.
3. Peter Yuan, Research Associate, CADS, WSSU, 2021.

THESIS SUPERVISION

1. Brixx-John Garcia Panlaqui, "Path Forming of Healthcare Practitioners in an Indoor Space Using Mobile Crowdsensing", M. Sc thesis, Department of Computer Science , WSSU, 2022.
2. Mina Guirguis, "Evaluating Continuous Authentication in Smartphones", M. Sc thesis, WSSU, 2022.
3. Charles Mickle, "Understanding Discharge Disposition in Acute Neurological Care: A Machine Learning Based Approach", M. Sc thesis, Department of Computer Science, WSSU, 2021
4. John Milton, "Exploring the Impact of Inner Social Networking Factors on Cognitive Aging through Predictive Analysis", M. Sc thesis, Department of Computer Science, WSSU, 2021
5. Michaelangelo Fields, "Use of Machine Learning Methods for Vehicle Predictive Maintenance", M. Sc thesis, Department of Computer Science, WSSU, 2020.

THESIS COMMITTEE MEMBER

1. James, Coe, M. Sc. Thesis: "Evaluating Impact of Race in Facial Recognition Across Machine Learning and Deep Learning Algorithms", Department of Computer Science, WSSU, 2021.
2. Pramita Muhuri, PhD Thesis, North Carolina A & T University, 2021.
3. Tony Gwyn, M. Sc. Thesis: "Evaluation of Local Binary Pattern Algorithms for the Use of Biometric Authentication", Department of Computer Science, WSSU, 2020.

GRADUATE STUDENTS

1. Brixx-John Garcia Panlaqui, 2021-2022
   - Published at 2022 Sensors Journal as first author.
   - Published and presented at 2022 ICCCN conference as co-author.
2. Mina Guirguis, 2020-2022
   - Presented at 2021 Symposium on Computing at Minority Institutions (ADMI) conference.
   - Published at 2020 IEEE ICMLA conference as student co-author. (See Publications)
3. Charles Mickle, 2020-2021
   - Published at 2022 BMC Health Services Research journal as first author.
   - Published and presented at 2021 IEEE SSCI conference as first author.
   - Published and presented at 2022 ICCCN conference as co-author.
4. John Milton, 2020 - 2021
   - Presented at 2021 Symposium on Computing at Minority Institutions (ADMI) conference.
5. Michaelangelo Fields, 2019 - 2020.
   - Presented at 2020 NSF/AAAS Emerging Researchers National Conference (ERN) in STEM.

UNDERGRADUATE STUDENTS

1. Raj Poudyel, Project: "Exploring Important Spatial Justice Variables", 2021-2022
   - Presented at 2022 SEDAAG conference, CADS Symposium 2022, WSSU scholarship day, 2022.
2. Hector Santiago, Project: "Impact of COVID-19 in WSSU vicinities", 2020-2021
   - Presented at Inaugural CADS Symposium 2021, WSSU CS/IT day 2021, and WSSU Scholarship week 2021
3. Gerry Myers, Project: "Data Science Modules for K12", 2020
4. Megh Poudyel, Project: "Exploring Spatial inequalities in the state of North Carolina", 2020-Now

- Presented at WSSU Scholarship Week 2021 and WSSU CS/IT day 2021.
5. David Rodriguez-romero, Project: "Application of machine learning techniques in predicting stock prices", 2018-2020.
   - Rodrigues-Romero, D., Deb, D., "Stock Price Prediction using Ensemble Learning", Poster presentation at 2020 NSF/AAAS Emerging Researchers National Conference (ERN) in STEM, February 2020.
   - Rodrigues-Romero, D., Deb, D., "Using Sentiment of News Articles to Predict Stock Price Performance", Poster presentation at 2019 NSF/AAAS Emerging Researchers National Conference (ERN) in STEM, February 2019.
6. James Robert, Project: "Data Science for Understanding and Assessing Spatial Justice", 2017-2020.
   - Robert, J., Deb, D., "Data Science for Understanding and Assessing Spatial Justice", Poster presentation at 2019 NSF/AAAS Emerging Researchers National Conference (ERN) in STEM, February 2019.
7. Joel Evans, Project: "Predicting NFL Drafts using Machine Learning", 2018.
8. Sebastian Cousins, Project: "Apache Spark Workload Characterization in AWS cloud", 2016 - 2018.
   - Published at 2018 IEEE IPDPSW conference as student co-author. (See Publications)
   - Cousins, S., Deb, D., "Large-scale Workload Characterization in Apache Spark Framework", Oral presentation at 2018 NSF/AAAS Emerging Researchers National Conference (ERN) in STEM, February 2018. (Awarded First Prize in the Undergraduate Computer Science Research Category)
   - Cousins, S., Deb, D., "Explore Spark-SQL and its performance using TPC-H Workload", Poster presented at NC-LSAMP Annual Undergraduate Research Conference, NC state university, November 2017. (Awarded second prize in Computer Science research category).
9. George Mathis, Project: "Music Lyrics Analysis via Apache Spark MlLib", 2017 - 2018.
   - Mathis, G., Cousins S., Deb D., "Music Mood Classification based on Lyrics", Poster presentation at 2018 NSF/AAAS Emerging Researchers National Conference (ERN) in STEM, February 2018.
10. Noel Harp, Project: "Sentiment Analysis of Tweets and Movie Reviews", 2016-2017.
11. Amari Lewis, Project: "Analyzing Healthcare data to help prevent heart disease", 2015 - 2016.
12. Mallek Kannan, Project: "Developing Interactive Mobile App: Prim's Minimum Spanning Tree (MST) Algorithm" 2015-2016.
    - Published at 2017 ACM SIGCSE conference as student co-author. (See Publications)
    - Kannan, M. and Deb, D., "Design and Development of a Minimum Spanning Tree Mobile Application", Oral Presentation made at 2016 NSF/AAAS Emerging Researchers National Conference (ERN) in STEM, Washington DC, February 2016.
13. Matt Meeker, Project: "Developing Interactive Educational Mobile Apps for Sorting Algorithms", 2014-2015
    - Meeker, M. and Deb, D. "Engaging Students with Interactive Exercise Apps based on Sorting Algorithms", Oral Presentation made at 2015 NSF/AAAS Emerging Researchers Conference (ERN) in STEM, Washington DC, February 2015.
14. Jeremy Smith, Project: "Developing Interactive Educational Mobile Apps"2014-2015
15. Kionna Davis, Project: "Developing Interactive Mobile App: Sorting", 2013-2014.
16. Luel Gonzales, IT Major, Project: "Search and Browse Tool Implementation for WSSU Library Archive", 2013.
    - Published at 2013 IEEE CSEE&T conference as student co-author. (See Publications)

UNIVERSITY SERVICES

Leadership Activities
1. Founding Director, Center for Applied Data Science (CADS), WSSU, 2020- now. As part of my responsibilities as the Director, I supervised a team of 20 faculties in research, curriculum, and professional development.
2. Organized and conducted 3-day long Faculty Development workshop on "Data Analysis and Visualization using Python" for 27 faculty at WSSU, May 2022

3. Organized and led CADS Symposium 2022 (number of registrants: 102, Average number of attendees in various sessions: 60) May 2022
4. Organized and led CADS Student Research showcase during WSSU Scholarship week April 2022 YouTube link: https://youtu.be/n07VUvAgg3c
5. Organized and lead full day CADS Symposium 2021 at WSSU, May 2021 (Registered by : 111, attended by: 70).
6. Organized and lead CADS Student Research Showcase during WSSU Scholarship week, 2021 (attended by: 39)
7. Organized and led "CADS Advisory Board Meeting", 2020, 2021 and 2022.
8. Organized and lead NSF Faculty Workshop on Data Science Pedagogy & Practice at WSSU, May 2019 (Number of faculty participant: 27)

Other Activities

1. Member, Provost's Council, WSSU, 2022-now.
2. Search Committee Member, Dean of the College of Arts, Sciences, Business and Education (CASBE),
3. WSSU, 2022.
4. Search Committee Member, Center Director, The Biomedical Research Center (BRIC), WSSU, 2022.
5. Innovations Festival committee member, assist with showcasing entrepreneurship at WSSU April 2022
6. Presented at WSSU Board of Trustees Academic Affairs Committee meeting, March 16th, 2021
7. Member, Faculty Senate Committee, WSSU, 2017-now.
8. Member, Public Health Major Planning Committee, 2020-now
9. Member, Curriculum Committee, Graduate certificate program in "Data Analytics" at WSSU. 2019-2020
10. Member, Strategic Planning Committee, WSSU 2015-2017.
11. Served as research mentor NIH MARC U*STAR scholars, 2016
12. WSSU O'Kelly Scholar, 2016
13. Member, Reimagine the First Year of Colleague Committee, WSSU, 2015 - 2017.
14. Member, Teaching with Technology Faculty Learning Committee, WSSU, 2015 – 2017.
15. Member, QEP Writing in the majors (WIM) project, WSSU, 2013 to 2019.
16. Member, ABET self-study and accreditation Project, Department of CS, WSSU, 2013, 2018.
17. Department Liaison, Center for Excellence in Teaching and Learning (CETL), WSSU, 2012 - 2017.
18. Member, Center for Community Safety, WSSU, 2013-2014.
19. Chair, Enrichment Committee, Department of CS, WSSU, 2012-2013.
20. Member, Curriculum Development Committee, Indiana University of Pennsylvania (IUP), 2010-2011.
21. Member, Natural Science and Mathematics Technology Committee, IUP, 2010-2011.
22. APSCUF Representative, IUP, 2010-2011.
23. Library Liaison, Department of CS, IUP, 2009-2011.
24. Member, Natural Science and Mathematics Recruitment and Retention Committee, IUP, 2009-2010.

PROFESSIONAL MEMBERSHIP

1. Association of Computing Machinery (ACM)
2. Institute of Electrical and Electronics Engineers (IEEE)
3. ACM Special Interest Group on Computer Science Education (SIGCSE)
4. ACM Special Interest Group for Information Technology Education (SIGITE)
5. ACM Special Interest Group on High Performance Computing (SIGHPC)
6. Academic Data Science Alliance (ADSA)
7. NSF/IEEE-TCPP Parallel and Distributed Curriculum Guideline Revision Committee.
8. IEEE Technical Committee on Parallel Processing (TCPP) Diversity Committee.
9. IEEE Computer Society T&C Adhoc Committee on Ethics, Diversity and Inclusion (EDI)

PROFESSIONAL ACTIVITIES

Invited Speaker/Panelist
1. Invited Speaker, "The faculty adopter approach to Broadening Participation in Data Science", Data Science Education conference organized at University of Tennessee at Chattanooga, June 2022
2. Panelist and Reviewer, NSF Solicitation: Broadening Participation in Computing program, Demonstration track, April 2022, Number of proposals: 11
3. Invited Speaker, "Prospects and Opportunities for data Science or coding skills", workshop organized at Elizabeth City State University, April 2022
4. Research Colloquium Speaker, "Machine Learning in Touchstroke Authentication and in Spatial Justice", College of Computing and Digital Media, DePaul University, March, 2022 YouTube link: https://www.youtube.com/watch?v=OHwagDS90-k
5. Research Colloquium Speaker, "Center for Applied Data Science (CADS) at WSSU", Department of Computer Science, Wake Forest University, March 2022
6. Panelist, "Data Science Conversations: Bowie State University and Winston-Salem State University", Organized by Academic Data Science Alliances (ADSA), February 2022 YouTube link: https://www.youtube.com/watch?v=J0qJsE0G6Fg&t=2856s
7. Panelist, "The Relevancy of Research at the Rooted In Resilience: Awareness, Education & Research Symposium." co-sponsored by CABSE, the Office of Student Research and School of Health Sciences at WSSU, Northwest AHEC, & Epsilon Tau Sigma Honor Society, November 2021
8. Panelist, "Research Opportunities for Students at WSSU", hosted by the Office of Student Research, WSSU, September 2021
9. Seminar Speaker, "Data Science and Machine Learning for Social Good: Opportunities and Challenges at HBCU's", HBCU Data Science Consortium Salon Speaker Series, August 2021
10. Invited Speaker, "Expanding the Network of STEM Scholars through the Advance Women of Color Summer Writing Retreat", NSF ADVANCE workshop organized by Jackson State University, June 2021
11. Seminar Speaker, "The Center for Applied Data Science at WSSU", organized by Department of Computer Science, WSSU, September 2020
12. Seminar Speaker, "A Machine Learning Approach for Smartphone-based User Authentication", Scholarship Research Innovation (SRI) Seminar Series, WSSU, October 2020

Program Chair/Co-Chair/Host
1. EduHPC 2020: Workshop on Education for High-Performance Computing, co-located with Supercomputing'20 conference, November 2020. (Organizer)
2. EduHPC 2019: Workshop on Education for High-Performance Computing, co-located with (Supercomputing'19) conference, November 2019. (Program Chair)
3. Hosted CSinParallel Piedmont 2019 Regional Workshop at Winston-Salem State University, June, 2019.
4. EduHPC 2018: Workshop on Education for High-Performance Computing, co-located with (Supercomputing'18) conference, November 2018. (Program Co-chair)

Organizing Committee Member
- Minority Serving Institution (MSI) co-chair, ACM Special Interest Group on Computer Science Education (SIGCSE) organizing committee, 2023
- The International Conference for High Performance Computing, Networking, Storage, and Analysis - Supercomputing (SC) Planning Committee 2022

Program Committee Member
1. Data Science Leadership Summit, Organized by Academic Data Science Alliance (ADSA), 2023
2. Project Based Learning & Teaching (PBLT) and Education Resources Directory (ERD) subgroup in SouthBDHub 2021- now
3. Special Session: Emerging Machine Learning (ML) Based Techniques in Securing Users' Identity at the 19th IEEE International Conference on Machine Learning and Applications (IEEE ICMLA), 2020.

4. The Twelfth International Conference on Mobile, Hybrid, and On-line Learning (eLmL), 2020.
5. EduHPC 2021, 2020, 2019, 2018, 2017, 2016 & 2015: Workshop on Education for High-Performance Computing, co-located with Supercomputing (SC) conference.
6. EduPar 2020, 2019, 2018, 2017, 2016: NSF/TCPP Workshop on Parallel and Distributed Computing Education, co-located with IEEE IPDPS.
7. MUE 2020, 2019, 2015, 2014, 2013: International Conference on Multimedia and Ubiquitous Engineering.
8. ACM Conference on Management of Digital EcoSystems (MEDES) 2017, 2016.
9. International Conference on Innovations in Science, Engineering and Technology, (ICISET) 2016.

Session Chair
1. Session: Courseware and Curricula, Workshop on Parallel and Distributed Computing Education (EduPar), 2020.
2. Session: Computational Thinking I, ACM technical symposium on Computer science education (SIGCSE), 2019.
3. Session: Paper Session II, Workshop on Education for High-Performance Computing (EduHPC), 2018.
4. 26th International Conference on Software Engineering and Knowledge Engineering (SEKE 2014)

Visiting Scientist
- Department of Computer Science, Duke University, Summer of 2018

Invited Participant in Meetings with Travel Awards
1. NSF/IEEE-TCPP/CDER Institute Planning Grant Workshop on PDC Education, February 2021
2. NSF/IEEE-TCPP/CDER Planning Grant Meeting Organized at SC 2019, November 2019.
3. Google Cloud Platform (GCP) Faculty Institute, June 2018.
4. QEM/NSF CISE Forum, July 2018.
5. NSF/IEEE-TCPP/CDER Parallel and Distributed Computing Curriculum Revision Planning Meeting, Organized at IPDPS 2017, May 2017.
6. NSF/IEEE-TCPP/CDER Parallel and Distributed Computing Curriculum Revision Planning Meeting, April 2017.
7. NSF/IEEE-TCPP/CDER workshop on the application of fundamental principles of parallelism and concurrency in CS courses, Organized at SC'16, November 2016.
8. NSF CloudLab Workshop on the use of advanced NSF Cloud facilities, November 2016.
9. NSF/IEEE-TCPP/CDER workshop on the application of fundamental principles of parallelism and concurrency in CS courses, Organized at IPDPS'16, May 2016.
10. NSF/TCPP/CDER Workshop on Broadening Parallel and Distributed Computing Undergraduate Education, August 2015.

Editorial Board Member
- Guest Editor, 4th volume of the Journal of Parallel and Distributed Computing (JPDC) special issue on PDC/HPC Education, Published by Elsevier
- ICTACT Journal on Data Science and Machine Learning (IJDSML)

Reviewer
1. The International Conference on Innovation and Technology in Computer Science Education (ITiCSE), 2022, 2017
2. The International Conference for High Performance Computing, Networking, Storage, and Analysis - Supercomputing (SC) 2022, reviewed 8 workshop proposals.
3. Remote Sensing Journal, Published by MDPI, 2022
4. 19th IEEE International Conference on Machine Learning and Applications (IEEE ICMLA), 2020.
5. Dive into Systems, a gentle introduction to computer systems, computer organization, and parallel computing. A free, online textbook. Beta release, 2020. by Suzanne J. Mathews, Tia Newhall, and Kevin C. Webb.
6. Journal of Parallel and Distributed Computing (JPDC) Special Issue on Keeping up with Technology: Teaching Parallel, Distributed and High-Performance Computing, Published by Elsevier, 2021, 2018, 2017.

7. SIGCSE 2020, 2019, 2018, 2017: ACM technical symposium on Computer science education.
8. EduHPC 2021, 2020,2019,2018, 2017, 2016 and 2015.
9. EduPar 2020, 2019, 2018, 2017, 2016.
10. FIE 2017, 2016, 2015: IEEE Frontiers in Education Conference.
11. MUE 2015, 2014, 2013.
12. Central European Journal of Engineering (CEJE), Published by Springer Link, Volume 2, Number 3, 2012.
13. Scientia Iranica, International Journal of Science and Technology, 2012.
14. 6th International Conference on Embedded and Multimedia Computing (EMC), 2011.
15. ITING 2011, 2010: International Conference on Information Technology: New Generations.
16. International Journal for Computers and Their Applications (IJCA), 2010, 2006 and 2007.
17. 28th Australian Computer Science Conference (ACSC), 2005.
18. Book: Causality and Probability in the Sciences, edited by Federica Russo and Jon Williamson, London: College Publications, Texts in Philosophy series, 2007.

Others
1. Organized UNC President Peter Han's visit to CADS Center, March 2022
2. Developed multiple rubrics and Qualtrics surveys for CASBE dean and BRIC director search committees, 2022.
3. Developed and managed CADS website (https://www.wssu.edu/cads), LinkedIn (https://www.linkedin.com/company/wssu-cads), and YouTube (https://www.youtube.com/channel/UCkRpCwBL-Ml6lQw13-3dJqA) sites with regular updates and collaborate with WSSU social networking and media team to disseminate CADS activities and accomplishments, 2020-now.
4. Completed CITI Online Course development course during July 2020
5. Completed 3-day long "Big Data on AWS" course that introduces cloud-based big data solutions such as Amazon Elastic MapReduce (EMR), Amazon Redshift, Amazon Kinesis and the rest of the AWS big data platform, January 2017.
6. Completed "AWS Technical Essentials" course that teaches the foundations of cloud computing, storage, and networking on Amazon Web Services (AWS) platform, September 2016.
7. Attended Proposal Development workshop for NSF's HBCU RIA grant, organized by QEM network, August 2015.
8. Advised/mentored at-risk CS/IT students as part of three weeks long "Student Success Initiative" program offered by CS department, WSSU during Fall, 2014.
9. Participated in a year-long professional development activities offered by Building Connections, Capstone Institute at Howard University, Washington D.C., 2013.
10. Attended week long O'K Scholar institute hosted by WSSU to understand information literacy concepts and developed instructional and evaluation material to incorporate information literacy into courses.
11. Attended the workshop "Forward to Professorship", sponsored by NSF ADVANCE, June 2010.
12. Member of The Reflective Practice (RP) group at IUP. RP project promotes effective teaching through the use of workshops, monthly meetings, and small teaching circles.
13. Conducted hands-on sessions for the workshop "IT is for Girls" (uncg.edu/bae/isom/wit), organized by UNCG and Guilford County Schools in order to increase awareness about IT education and careers among high-school girls.

AWARDS AND HONORS

2022:   : Google's HBCU TensorFlow Outreach Award of $10,000
2021   : Wilveria B. Atkinson Distinguished Research Award, WSSU, $4000
2021   : Google's HBCU TensorFlow Outreach Award of $10,000
2021   : Red Jacket Distinguished Award, WSSU, 2021
2007-2017   : Multiple Winston-Salem State University Travel Grants, more than $15000.00.

2015-2017	: Multiple NSF/IEEE-TCPP Travel Awards, more than $7500.00
2016	: NSF travel award to attend NSF Advanced cloud facilities workshop, $1500.00
2015	: QEM network travel grant, $1500.00.
2010	: NSF ADVANCE travel award, $1000.00
2009	: Awarded "Certificate of Merit" presented by the Trustees and President of IUP in recognition of faculty productivity in published scholarship during 2009.
2005	: Honorary citizenship for community involvement by the City of Bozeman, Montana, USA.
2004-2005	: Benjamin Ph.D. fellowship, College of Eng., Montana State University, $18,000.00.
2000-2001	: Australian Government's Full Scholarship to study Ms. C. at Adelaide University.
1996	:"Woman of the Year", Shahjalal University of Science and Technology, Bangladesh, 1996. This is a title given to the best female student of SUST based on academic and extracurricular achievements.
1993-1996	: Shahjalal University Merit Scholarship.
1990-92	: Bangladesh Government Merit Scholarship.