

Chibuike E. Ugwu

Curriculum Vitae

School of Electrical Engineering and Computer Science
Washington State University
Pullman, WA, USA

Website 🌐: chibuikeugwu.github.io
Email ✉: chibuike.ugwu@wsu.edu

RESEARCH SUMMARY

My general research interests are in **Artificial Intelligence (AI)** and **Machine Learning (ML)**, with a main focus on developing robust, safe, and trustworthy ML algorithms for addressing critical real-world challenges within safety-sensitive domains. My current work focuses on developing efficient algorithms and theoretical frameworks to enhance the reliability and **safety of deep learning algorithms**. My research is specifically concentrated on:

- Adapting Uncertainty Quantification methods, like Conformal Prediction, to facilitate effective and secure human-ML collaboration within healthcare applications.
- Trustworthy Out-of-Distribution (OOD) Detection for ensuring the reliability of ML models when applied to real-world tasks beyond their original training scope.

EDUCATION

Ph.D., Computer Science <i>Washington State University</i> Advisor: Prof. Jana Doppa	2022 – Present <i>Pullman, WA, USA</i>
BS., Statistics 🎓 (First Class Honors) <i>University of Nigeria</i> Thesis title: <i>Sensitivity of Randomization test and F-test in Some Experimental Designs</i> Class rank: Best Graduating Student	2014 – 2018 <i>Nsukka, Nigeria</i>

PROFESSIONAL APPOINTMENTS

Research Assistant <i>EECS Department – Washington State University</i>	Aug 2022 – Present <i>Pullman, WA, USA</i>
Teaching Assistant <i>EECS Department – Washington State University</i> – CptS 223: Advanced Data Structures C/C++ (Fall-2022) – CptS 315: Introduction to Data Mining (Spring-2023) – CptS 223: Advanced Data Structures C/C++ (Fall-2023) – CptS 315: Introduction to Data Mining (Spring-2024)	Aug 2022 – Present <i>Pullman, WA, USA</i>
Teaching Assistant <i>Statistics Department – Kano State Polytechnic</i>	2019 – 2020 <i>Kano, Nigeria</i>

AWARDS AND HONORS

🏆 Outstanding Graduate Teaching Assistant in EECS Award, VCEA <i>Voiland College of Engineering, Washington State University</i>	2024
🏆 EducationUSA Opportunity Fund Program Scholar <i>USA Embassy, Abuja, Nigeria</i>	2022
🏆 Best Graduating Student <i>Statistics Department – University of Nigeria</i>	2018
🏆 Winner: Nigerian Statistical Association (NSA) competition <i>Representative of the University of Nigeria.</i>	2018
🏆 Gold medalist: NSA competition individual category <i>Representative of the University of Nigeria.</i>	2018

PUBLICATIONS

PAPERS UNDER REVIEW AND PREPRINTS

1. [AAAI'25] **Chibuike E. Ugwu**, Yan Yan, Diane Cook, Janardhan Rao Doppa. Adaptive Prediction Regions for Multi-target Regression. *AAAI Conference on Artificial Intelligence (AAAI)*, (Under Review).
2. [DATE'25], Pratyush Dhingra, **Chibuike E. Ugwu**, Jana Doppa and Partha Pratim Pande. ERGo: Energy-Efficient Hybrid GNN Training on Heterogeneous Processing-In-Memory Architecture. *Proceedings of ACM/IEEE Design, Automation and Test in Europe Conference (DATE)*, (Under Review).
3. **Chibuike E. Ugwu**, Yan Yan, Diane Cook, Janardhan Rao Doppa. Importance-Weighted Calibrated Region Prediction of Multi-target Cognitive Health Measures from Smartwatch Sensor Data. *ACM Transactions on Computing for Healthcare* (Under Review).

JOURNAL PAPERS

1. Oladugba, A. V., **Chibuike E. Ugwu**, & Onwuamaeze, U. C. (2023). Sensitivity and robustness of randomization test and F-test in some experimental designs. *Quality and Reliability Engineering International*, 39(7), 2967-2974.

CONFERENCE PAPERS

1. Oladugba, A. V., **Chibuike E. Ugwu**, & Onwuamaeze, U. C. (2018). A Comparison of randomization test and F-test in some experimental designs. *Nigerian Statistical Association 42nd Annual National Statistical Association conference, 2018*.