# Chibuike E. Ugwu

*Curriculum Vitae*

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

Website 🌐: [chibuikeugwu.github.io](chibuikeugwu.github.io)
Email ✉: [chibuike.ugwu@wsu.edu](chibuike.ugwu@wsu.edu)

## RESEARCH INTERESTS

Trustworthy Machine Learning (TML), Conformal Prediction, Deep Learning, Multi-target Regression with Representation Learning, Computer Vision, Out-of-Distribution (OOD) Detection, Generative AI.

## 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**
*Washington State University*
*Advisor: [Prof. Jana Doppa](#)*
2022 – Present
*Pullman, WA, USA*

**BS., Statistics** 🎓 (First Class Honors)
*University of Nigeria*
*Thesis title: Sensitivity of Randomization test and F-test in Some Experimental Designs*
*Class rank:* **Best Graduating Student**
2014 – 2018
*Nsukka, Nigeria*

## PROFESSIONAL APPOINTMENTS

**Research Assistant**
*EECS Department – Washington State University*
Aug 2022 – Present
*Pullman, WA, USA*

**Teaching Assistant**
*EECS Department – Washington State University*
– 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
*Pullman, WA, USA*

**Teaching Assistant**
*Statistics Department – Kano State Polytechnic*
2019 – 2020
*Kano, Nigeria*

## AWARDS AND HONORS

🏆 **Outstanding Graduate Teaching Assistant in EECS Award, VCEA**
*Voiland College of Engineering, Washington State University*
2024

🏆 **EducationUSA Opportunity Fund Program Scholar**
*USA Embassy, Abuja, Nigeria*
2022

---

🏆 **Best Graduating Student**      2018
*Statistics Department – University of Nigeria*

🏆 **Winner: Nigerian Statistical Association (NSA) competition**      2018
*Representative of the University of Nigeria.*

🏆 **Gold medalist: NSA competition individual category**      2018
*Representative of the University of Nigeria.*

## 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.*