

# Blessing Andrew Okoro

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## EDUCATION

<b>PhD Computer Science</b> <i>(In View)</i>	Aug 2021 - May 2026
University at Albany, State University of NY	Albany, NY
<b>Master of Science in Computer Science</b>	Aug 2021 - May 2024
University at Albany, State University of NY	Albany, NY
CGPA	3.96/4.0
<b>B.Eng Electrical and Electronics Engineering</b>	Aug. 2013 - May 2018
Federal University of Technology Owerri	Nigeria
CGPA	4.73/5.0

## PEER REVIEWED PUBLICATIONS

1. **Blessing Okoro**, Maxwell McNeil, Kavya Meka, Karyn Doke, Petko Bogdanov, and Mariya Zheleva. "Sparse Recovery Transmitter Detection." In IEEE INFOCOM 2025-IEEE Conference on Computer Communications, pp. 1-10. IEEE, 2025.
2. **Blessing Okoro**, Taneja Vaasu, Mattoon Clark, Xin Li, and Mariya Zheleva. "M-SHarc: Multi-Spectral Transmitter Analytics." **Under review** In IEEE INFOCOM 2026 - IEEE Conference on Computer Communications, 2026.
3. **Blessing Okoro**, Petko Bogdanov, and Mariya Zheleva. "Joint Time-Frequency-Space Transmitter Analytics via Dictionary-Based Tensor Factorization" **Under review** In IEEE ICC 2026 - IEEE International Conference on Communications, 2026.
4. Doke, Karyn, **Blessing Okoro**, Amin Zare, and Mariya Zheleva. "VIA: Establishing the link between spectrum sensor capabilities and data analytics performance." In IEEE INFOCOM 2024-IEEE Conference on Computer Communications, pp. 2229-2238. IEEE, 2024
5. Doke, Karyn, Shamik Sarkar, **Blessing Okoro**, Danijela Cabric, and Mariya Zheleva. "RadVIEW: Robust radar detection and characterization in high-noise regimes." In 2024 IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN), pp. 1-8. IEEE, 2024.

## EXPERIENCE

**Research Project Assistant** Albany, NY  
*University at Albany, SUNY* August 2021 - Present

- Led the development of SCAN, a novel transmitter detection framework based on Orthogonal Matching Pursuit sparse coding, capable of detecting multiple low-SNR signals even in the presence of interference.
- Led the development of M-SHarc, a novel generative AI platform based on denoising diffusion models for harmonic detection and reconciliation with fundamental frequencies.
- Led the development of a transmitter characterization framework for joint detection of transmitters in time, frequency, and space using a multi-dictionary tensor decomposition approach.
- Designed and implemented a realistic Radio Frequency data simulation platform for generating datasets used in synthetic evaluation.
- Led the development of an RF denoising framework leveraging diffusion models to recover low-SNR signals and enhance detection performance.
- Collaborated on the development of a framework to assess spectrum data fidelity by profiling sensor properties and predicting the performance of spectrum analysis tasks.
- Led the setup of containers and custom images on Colosseum, a wireless experimentation testbed for collecting emulated over-the-air data under realistic channel conditions.

**Teaching Assistant and Facilitator** Albany, NY and Mayaguez, PR  
*NSF SpectrumX Summer School* Summer 2023, 2024, 2025

- Facilitated a course on wireless communication for diverse undergraduate students at UPRM.
- Led the development of some of the instruction materials including scripts for collecting, processing, and analyzing RF traces.
- Led the hands-on demonstration of WiFi communication: Hidden terminal problem, exposed terminal problem, congestion, interference, rate adaptation and channelization.
- Led a hands-on building a USRP-based testbed for transmitting and collecting RF traces.
- Led a hackathon competition where students built an RTL based spectrum sensor, which they used to hunt some signals of interest, and then developed algorithm to characterize the collected traces.

## ISN Products Nigeria Ltd

Service Engineer

Lagos, Nigeria

March 2019 - May 2021

- Significantly decreased customer downtime by 80% through the implementation of prompt solutions and fostering a culture of proactive maintenance.
- Enhanced operational efficiency by optimizing job scheduling, resulting in a notable reduction in Mean Time To Repair (MTTR).

## PROJECTS

- **Self Supervised Radio Frequency Image Denoising:** Diffusion model based framework for RFI denoising. The self-supervised model does not require extra training data for the denoising task.
- **Congestion in WiFi:** Conducted an in-depth analysis of congestion in IEEE 802.11 WiFi networks by collecting traces with Wireshark and injecting traffic using iperf, reporting insights on throughput, channel utilization, and the effects of RTS-CTS mechanisms
- **Network performance:** Designed an android app to measure WiFi and cellular network performance, identifying key insights into connectivity patterns in managed and unmanaged network environments.
- **Sparse Recovery Transmitter Detection:** Orthogonal Matching Pursuit like algorithm. Achieves multi-signal detection on realworld traces with jaccard score  $> 95\%$  on all tasks.
- **Anonymizer: Socket Programming and Reliable Data Transfer:** Reliable client/server communication via TCP socket programming. Also UDP with stop-and-wait protocol for reliability.
- **Real Time Drowsiness Detection System:** A CNN based non-intrusive drowsiness detector with accuracy  $> 98\%$

## SKILLS

Languages:	Python, Matlab, Java, C, Kotlin, SQL
Libraries and Frameworks:	TensorFlow, Pytorch, Android, Flask, Spring Boot, Docker
Misc:	Bash, Linux, Agile, AWS - EC2, Git, iPerf, Wireshark, TShark

## AWARD

- CyberPowder Fellowship 2025
- NSF SpectrumX GRS fellowship 2024
- Research Project Assistant RFSUNY, 2021
- Federal Government Scholarship award, 2017
- MTN Foundation Science and Technology Scholarship Award, 2015
- Agbami Medical and Engineering Professionals Scholarship Award, 2015

## PROFESSIONAL MEETINGS ATTENDED

- IEEE International Conference on Computer Communications. May 19 - 22, 2025. London, UK.
- NSF SpectrumX Spring 2025 Center Meeting, April 14 - 16, 2025. Virtual Meeting.
- Mobile Experiment Platform software and data workshop. June 11 - 12, 2025. MIT Haystack Observatory. Westford, MA.
- IEEE Dynamic Spectrum Access Networks Conference. May 13 - 16, 2024. Washington D.C area.
- NSF Spectrum Week, Co-located with DySPAN 2024. May 13 - 16, 2024. Washington D.C area
- 50th Annual Convention, National Society of Black Engineers. March 20 - 24, 2024. Atlanta, GA
- NSF Spectrum Week. April 24 - 24, 2023. Alexandria, VA.
- IEEE International Conference on Computer Communications. May 17 - 20, 2023. New York City, NY.
- 13th New England Workshop on Software-Defined Radio, Boston SDR User Group. June 1 - 2, 2023. Worcester, MA.
- HotMobile: The International Workshop on Mobile Computing Systems and Applications. February 22 - 23, 2023. Orange County, CA
- Young Gladiators Colosseum Master Class. November 1 - 3, 2021. North Eastern University, Boston, MA.