

OSAHOR Michael Uche

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INTERESTS

- **Machine Learning:** Deep learning, Computer vision, Image quality assessment, Adversarial learning, Object detection, AR/VR.

PROGRAMMING SKILLS

- **Platforms:** PyTorch, Tensorflow, PyCharm, TorchScript, SLAM, Flask, MATLAB, Linux, Kinect-SDK, and GIT.
- **Languages:** Python, C#, C/C++, SQL, Java, PHP

PROJECTS

- **Image Synthesis:** Deployed an image synthesis project that converts sketches to color images of different ethnic backgrounds.
- **GAN Models:** Implemented various GAN models (STAR, CYCLE, VANILLA, QAGAN, FFGAN, etc) for Quality enhancement, attention and various image synthesis applications
- **Bias in Neural Networks:** Developed code to study the disparities between ethnic groups.
- **Multiple Dataset Integration:** Built an integrated database of over 400,00 sketches from CelebA, Fair-Face and LFW datasets to implement a Generative Adversarial Network (GAN) for image synthesis.
- **Adversarial Attack:** Developed an adversarial framework to compromise classification of neural networks
- **Image Quality Enhancement:** Integration of quality maps and attention mechanism to improve adversarial learning.
- **Robotics:** Developed an algorithm to implement a gesture controlled robotic arm by applying inverse kinematics and joint tracking in real time

EXPERIENCE

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|---|------------------------|
| Deep Lab | Morgantown |
| • <i>Graduate Research Assistant</i> | Aug. 2018 - Present |
| - Studying disparities between ethnic groups and over a million identities, aimed at reducing bias based learning | |
| - Data integration of over 400,00 sketches from CelebA, Fair-Face and LFW datasets for sketch to image synthesis. | |
| Neuro Lab | Montana |
| • <i>Graduate Research Assistant</i> | Aug. 2017 - July. 2018 |
| - Built an image processing framework to track the dynamics of neuron activity in brain vesicles. | |
| - Implemented Python scripts to analyse data obtained from neuron activity. | |

EDUCATION

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| West Virginia University | Morgantown, WV |
| • <i>Doctor of Philosophy in Electrical Engineering (Deep/Machine Learning)</i> | Aug. 2018 – December 2022 (exptd.) |
| Montana State University | Morgantown, WV |
| • <i>Graduate Courses (Neuro Engineering)</i> | Aug. 2017 – July 2018 |
| Obafemi Awolowo University | Ile-Ife, NG |
| • <i>Master of Science (Control and Instrumentation Engineering)</i> | Jan. 2013– July. 2015 |

SELECTED PUBLICATIONS

- **Osahor, U.M, Dabouei, A., Nasrabadi, N.M:** Ortho-Shot: Low Displacement Rank Regularization with Data Augmentation for Few-Shot Learning (**WACV 2022**).
- **Osahor, U.M, Dabouei, A., Nasrabadi, N.M:** Quality map fusion for adversarial learning (**BMVC 2021**).
- **Osahor, U.M. Kazemi, H., Dabouei, A., Nasrabadi, N.M:** Quality Guided Sketch-to-Photo Image Synthesis, Computer Vision and Pattern Recognition Workshop on Biometrics (**CVPRW**), 16 June, 2020.
- **Osahor, U.M. and Nasrabadi, N.M:** Deep adversarial attack on target detection systems, In Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications (Vol. 11006, p. 110061Q International Society for Optics and Photonics, May 2019.
- **Osahor Uche and Lawrence Kehinde:** Development of a Gesture Detection System for the Control of a Robotic Arm ISSN: 2375-3846, 2016; 3(1): 17-24 published online February 2, 2016.

LEADERSHIP

- **Reviewer:** IEEE Transactions, WACV, etc
- **Supervision:** Supervised over 120 undergraduate students in courses related to electrical engineering and Computer Science
- **Mentorship:** Mentored minority students for graduate admissions in STEM related fields.