

# OSAHOR Michael Uche

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## INTERESTS

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

## PROGRAMMING SKILLS

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

## PROJECTS/EXPERTISE

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- **Facial Synthesis:** Deployed an image synthesis project that converts facial sketches to facial RGB 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.
- **Multiple Dataset Integration:** Collected and annotated of over 400,00 sketches, collated from CelebA, Fair-Face and LFW datasets to implement image synthesis GAN models.
- **Adversarial Attack:** Developed an adversarial framework to compromise classification of neural networks.
- **Image Quality Enhancement:** Improved the perceptual quality of images using Image quality assessment statistics for both Full reference, Supervised and Unsupervised cases.
- **Robotics:** Applied both forward and inverse kinematics for Gesture Control of a robotic Arm.

## EXPERIENCE

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

## SELECTED PUBLICATIONS

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- **Osahor Uche, Dabouei, A., Nasrabadi, N.M:** Ortho-Shot: Low Displacement Rank Regularization with Data Augmentation for Few-Shot Learning (**WACV 2022**).
- **Osahor Uche, Dabouei, A., Nasrabadi, N.M:** Quality map fusion for adversarial learning (**BMVC 2021**).
- **Osahor Uche, 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 Uche 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

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- **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.