

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/EXPERTISE

- **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

- **Apple Inc** Cupertino, California
• *Display ML-Algorithm Intern* Aug. 2018 - Present
 - Applied deep learning frameworks such as Pytorch with hands on expertise for various data types.
 - Generative adversarial modeling and analysis of deep generative networks using various statistical techniques.
 - Designed and implemented innovative algorithms for display performance enhancement using deep learning
 - Extensive data analysis to establish performance metrics and requirements through measurement and modeling
- **Deep Lab** Morgantown
• *Graduate Research Assistant* 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
• *Graduate Research Assistant* 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

- **West Virginia University** Morgantown, WV
• *Doctor of Philosophy in Electrical Engineering (Deep/Machine Learning) CGPA: 3.83* Aug. 2018 – December 2022
- **Montana State University** Morgantown, WV
• *Graduate Courses (Neuro Engineering) CGPA: 3.90* Aug. 2017 – July 2018
- **Obafemi Awolowo University** Ile-Ife, NG
• *Master of Science (Control and Instrumentation Engineering)* Jan. 2013– July. 2015

SELECTED PUBLICATIONS

- **Osahor Uche, Nasrabadi, N.M:** Ortho-Shot: Low Displacement Rank Regularization with Data Augmentation for Few-Shot Learning (**WACV 2022**).
- **Osahor Uche, 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

- **Supervision:** IEEE Transactions, WACV, etc
- **Mentorship:** Supervised over 120 undergraduate students in courses related to electrical engineering and Computer Science

HONOR/AWARDS

- **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.