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

- **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)* — *Aug. 2018 – December 2022 (exptd.)*

- **Montana State University** — Morgantown, WV
  Graduate Courses *(Neuro Engineering)* — *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, 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

- **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.