CAE Research Project Meeting Minutes

10/7/2021

Participants
- o Dr. Waleed Farag (PI)
- o Dr. Soundararajan Ezekiel (Co-PI)
- o Dr. Xinwen Wu
- o Maria Balega
- o Zaryn Good
- o Franklin May
- o Cassie Lefever
- o Alicia Deak
- o Eliot Hocke
- o Ryan Gress

Meeting started at 4:00 p.m.

Unanimously approved minutes for meeting on September 30, 2021

Main Points
- o Discussed:
    - Maria & Cassie
        - Got access to TCNJ machine and Redhawk machine at IUP
        - Ran through the five IoT23 files in XGBoost, all had 9 classifications except one, achieved up to 99% accuracy, data distribution is uneven
    - Alicia & Eliot
        - Ran the dat file through XGBoost to see if it would run better than csv, getting stuck in an endless loop
        - Can create synthetic data to accommodate nan values in datasets
    - Zaryn
        - Running DCNN, training is taking a while
    - Franklin
        - Running KDD dataset in SVM, getting an endless loop
        - Added histogram in XGBoost algorithm
    - Ryan
        - Ran TON-IoT in XGBoost using binary classification, 14% anomalous in each capture, achieved up to 98% accuracy, max_depth was 100 so it may be overfitting data
- o Tasks:
    - Maria & Cassie
        - Run the five IoT23 files in SVM to compare results
        - Look into published papers for comparing results
    - Alicia & Eliot
        - Continue to run dat files through XGBoost and solve endless loop error
        - Find and run a balanced dataset in XGBoost to see results
    - Zaryn

Continue working on DCNN with IoT23 dataset, start working on converting TON-IoT dataset to images

Franklin

Run a program in titan and TCNJ machine and compare CPU time

Continue working with SVM trying to solve endless loop

Ryan

Continue running the TON-IoT captures in XGBoost, try to stay below 10 on max_depth

o General tasks:

Work on abstracts and continue revising them

Franklin is working on DCNN abstract

Maria is working on XGBoost abstract

Adjournment at 5:10 p.m.

Next meeting will be held on Thursday October 14 at 3:00 p.m. Via Dr.Farag s Zoom Room