CAE Research Project Meeting Minutes

10/14/2021

- 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 Ryan Gress
    - o Sky Semone
- Meeting started at 3:00 p.m.
- Unanimously approved minutes for meeting on October 7, 2021
- Main Points
    - o Discussed:
        - Maria & Cassie
            - Achieved up to 89% accuracy running SVM with IoT23, issues with NaN values so these rows were dropped, lost a lot of data and classifications
        - Alicia & Eliot
            - Working with dat files, only classifying one label in algorithms
            - Solved endless loop error in python, issue was in the data itself
            - Ran two balanced datasets, with binary SVM performed better achieving up to 92% accuracy, with multiclass XGBoost performed better achieving accuracy in the high 90s
        - Zaryn
            - DCNN is running more efficiently on Titan, found that malicious data is getting poor accuracy due to sorting of images
        - Franklin
            - Ran XGBoost on Titan and TCNJ machine to compare CPU times, TCNJ is faster
        - Ryan
            - Ran TON-Iot data in XGBoost, got up to 89% accuracy, XGBoost was mostly better than other algorithms used in published paper
    - o Tasks:
        - Maria & Cassie
            - Work on writing report using IEEE format, create graph/table of results
        - Alicia & Eliot
            - Look into comparing SVM, XGBoost, etc. with classical methods
        - Zaryn & Sky
            - Continue working on DCNN

- Franklin
  - Work on running KDD in SVM
  - Look into the time unit for CPU comparison of TCNJ and Titan
- Ryan
  - Work on combining captures from TON-IoT dataset, run binary and multiclassification to compare results with published paper
  - Get XGBoost results from Franklin to compare KDD and TON-IoT
- Adjournment at 4:00 p.m.
- Next meeting will be held on Thursday October 21 at 3:00 p.m.