# CAE Research Project Meeting Minutes

## 11/23/2021

- Participants
  - Dr. Waleed Farag (PI)
  - Dr. Soundararajan Ezekiel (Co-PI)
  - Dr. Xinwen Wu
  - Zaryn Good
  - Ryan Gress
  - Sky Semone
  - Cassie Lefever
  - Maria Balega
  - Alicia Deak
- Meeting started at 3:00 p.m.
- Unanimously approved minutes for meeting on November 16, 2021
- Main Points
  - Discussed:
    - General Comments:
      - Issues connecting to TCNJ machine, Maria contacted Dr. Pearlstein
      - Submit updated results and figures for writeup
      - Validate algorithms and frameworks
    - Maria & Cassie
      - Finished preprocessing the IoT-23 dataset
      - XGBoost split 80/20 achieved 85% accuracy, 65/35 split achieved 99% accuracy, 75/25 split achieved 95% accuracy
    - Alicia
      - Changed weighting on metrics in XGBoost algorithm
      - Ran KDD in XGBoost, an extra column was created in preprocessing, with extra column it is performing 80% accuracies and without it is performing 60% accuracies
    - Zaryn & Sky
      - Compared KDD dataset with different architectures, best performances with higher train to test ratio, ResNet50 and VGG19 outperformed
    - Ryan
      - Fixed issues with preprocessing ToN-IoT dataset
      - Ran XGBoost algorithm, it's not finding malicious activity
  - Tasks:
    - Maria & Cassie
      - Update report with graphs, results, and abstract
      - Determine what to do with classifications that have low representation
    - Alicia & Franklin
      - Look further into KDD dataset and why there is an extra column
      - Update report with graphs, results, and abstract

- Zaryn & Sky
  - Work on image conversion and training for IoT23 dataset
  - Update report with graphs and results
- Ryan & Alicia
  - Look further into why XGBoost is not finding malicious activity
  - Update report with graphs and results
- Adjournment at 3:50 p.m.
- Next meeting will be held on Tuesday November 30 at 3:00 p.m.