CAE Research Project Meeting Minutes
6/2/2021

- Participants
  - Dr. Waleed Farag (PI)
  - Dr. Soundararajan Ezekiel (Co-PI)
  - Dr. Xin-Wen Wu (Co-PI)
  - Cassandra Lefever
  - Maria Balega
  - Alicia Deak
  - Malcolm Holden
  - Alex Robbins

- Meeting started at 5:00 p.m.
- Unanimously approved minutes for meeting on May 26, 2021
- Main Points
  - Discussed:
    - Maria - Update on XGBoost algorithm
      - Worked with Dr. Ezekiel and Dr. Pearlstein on normalizing the data
      - Started with 200 lines of the data
      - Ran data through code, code ran and got an initial accuracy of 100%, but our testing is not ideal as the training and testing data overlap
    - Malcolm –
      - Working with Alicia, reading her notes, and learning MatLab
    - Alicia – SVM, one-hot encoding, cyclic learning
      - Working on converting our data into images to fit into DCNN
      - Working on satellite datasets, trying to get permission to access another dataset used by the Air Force
      - Shared PowerPoint slides summarizing current work with Starlink data and novelty detection
  - Tasks:
    - Maria –
      - Work with Alicia to run more of the dataset through the XGBoost Algorithm
      - Work on setting the parameters of the XGBoost algorithm
    - Dr. Ezekiel will email a PowerPoint presentation to the students explaining XGBoost in more detail
    - Alicia will train Maria on running the SVM on our dataset
    - Alex –
      - Search for a more traditional DNN for MatLab to use instead
      - Meet with Dr. Ezekiel and Dr. Pearlstein to discuss this
      - Sort and document files created on the Titan
    - Alicia, Jackson, Adam, and Alex will continue to work with DCNN
• One-hot encode the data -> convert to images -> run it through the DCNN
• We want Adam to help us find his original DCNN code on the Titan
  ▪ Cassie -
  ▪ Sort and document files created on the Titan
  ▪ Malcom –
    ▪ Continue working with Alicia on MatLab, SVM
• Adjournment at 6:10 p.m.
• Next meeting will be held on Monday June 7th at 5 p.m. via Dr. Farag’s Zoom room