EE/CprE/SE 492 BI-WEEKLY REPORT 6

3/30/21 – 4/12/21

Group number: 24

Project title: AI-VVO: Cloud-based Machine Learning for VOLT-VAR Control and Optimization

Client / Advisor: Gelli Ravikumar

Team Members - Role:

- ***Abdul-Salem Adedoja - Frontend Development***
- ***Ian Kegley - Frontend Development***
- ***Jacob Gleason - Frontend Development***
- ***Rene Chavez - Backend Development***
- ***Tyler Norris - Backend Development***

- **Weekly Summary**
  - This week, we worked on updating our configuration page from stream selection on/off switches to stream selection sliders. The new sliders range from integers -5 to 5 and set the values for each stream for use/calculation in our algorithm. Continued work getting those values sent to the output page is still ongoing as of this week. We also worked on getting the output page to make multiple calls to our learning algorithm in a row to run a simulation. The current states of our model will be updated after each call.

- **Past Week Accomplishments**
  - Abdul-Salam: Worked on the configuration page for stream selection
  - Ian: Modified the output page to have sliders similar to those of the home page. Input and output of the algorithm is now printed to the appropriate sections of the
  - Jacob: Worked on modifying the configuration page of the dashboard from a stream selection switch to a slider. Beyond that, continued work trying to figure out how to send the slider values for each stream to the output page so the algorithm can use the configured values in its calculations.
  - Rene: Have continued to work on modifying our core Machine Learning algorithm. Just to be able to respond and improve on our desired goal for this application.
  - Tyler: Worked on core Machine Learning algorithm and ensuring the calculations being made were aligned with the expectations
- **Pending Issues**
  - Abdul-Salam: None currently

- Ian: Making calls to the ML model in a loop caused the VM to crash. This crash is believed to be caused by an infinite loop of API calls being made.
- Jacob: One pending issue is figuring out how to send the value of each stream's slider to the output window for the algorithm to receive and use in its calculations.
- Rene: None currently
- Tyler: None currently

- **Individual Contributions**

NAME	Individual Contributions	Hours this week	HOURS cumulative
Abdul-Salam	Configuration page and dashboard	4	21
Ian	ML input and output values print to appropriate sections, began work on API calls in sequence	6	44
Jacob	Configuration page work (Sliders for stream selection, send stream values to algorithm)	7	30
Rene	Core machine learning algorithm work	5	29
Tyler	Working on core machine learning algorithm	4	20

- **Plans for the Upcoming Week**
  - Abdul-Salam: Need to work on grid visualization
  - Ian: Resolve API call loop issue, and ensure values are being printed correctly. Then Assist with the grid visualization page.
  - Jacob: Upcoming week plans are to solve the pending issue of sending the stream values to the output page/algorithm. Then, work on the grid visualization page to get that towards completion.
  - Rene: Continue to work on improving the core Machine Learning algorithm.
  - Tyler: Help improve the core Machine Learning Algorithm