EE/CprE/SE 492 BI-WEEKLY REPORT 4

3/2/21 – 3/15/21

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*

o **Weekly Summary**
- We worked on getting our docker-compose to build and start our project for us. From there we were able to start updating the basic UI of the dashboard we created, modifying the components to resemble our UI skeletons from your design document. We also began the initial implementation of our machine learning algorithm.

o **Past Week Accomplishments**
- Abdul-Salam: Worked on setting the work environment. Began working on the UI to ensure it looks like the mock up for the project.
- Ian: I worked with Jacob to add PostgreSQL to the VMs and get the docker compose running. I also worked briefly on setting up the Basic UI of the simulation output page, which is made up of 3 main columns that will be filled with text when the algorithm is running. I ten pivoted to attempting to implement our ML algorithm using Google Colaboratory, but success has been limited so far.
- Jacob: This week I worked with Ian to add PostgreSQL to our VMs and get our docker-compose up and running. Following that work, I started modifying and updating the basic UI we created for the groundwork of the dashboard to resemble the skeletons we envisioned for our project in our design document.
- Rene: This week I was attempting to connect our Tensorflow Environment to connect with our Django server. Once this connection is established we should be able to pull information from our database and receive our information to commence our ML algorithm. Still have yet to successfully connect it to our server.
- Tyler: Prepped for PIRM 1 and looked at tutorials to help establish connection.

- o **Pending Issues**
    - ● Abdul-Salam: The algorithm for load management is a little difficult to translate and will take a time to fully understand.
    - ● Ian: Translating the math from reference materials has been more difficult than expected, and will take some time and cooperation with other team members to implement.
    - ● Jacob: None currently. I figure I will have pending issues once I begin creating the UI windows for simulation and output.
    - ● Rene: Just establishing the connection to the server. Tried following a tutorial but wasn't able to connect due to different frameworks. Will attempt using a different tutorial.
    - ● Tyler: Establishing connection to server

- o **Individual Contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Abdul-Salam	Worked on the UI for project	4	13
Ian	Assisted with PostgreSQL to VMs, Added basic UI template to output page.	9	25
Jacob	Added PostgreSQL to VMs, updating the UI of our login and landing pages	6	16
Rene	Worked on connection our Tensorflow environment to our Web server	5	15
Tyler		4	13

- o **Plans for the Upcoming Week**
    - ● Abdul-Salam: Continue working on the UI for the front end
    - ● Ian: Continue to work on ML algorithm
    - ● Jacob: Continue updating the UI for our frontend dashboard. I plan to finish the configuration window and begin working on creating the simulation and output windows.
    - ● Rene: Continue to work on connecting our Tensorflow environment to our server
    - ● Tyler: Help connect the Tensorflow environment to our server