SIT374/SIT764

Team Project (A)

Learning Summary Report

STUDENT NAME: LE ANH LINH
STUDENT ID: 220337012

Self-Assessment Details

The following checklists provide an overview of my self-assessment for this unit.

	Pass (P)	Credit (C)	Distinction (D)	High Distinction (HD)
Self-Assessment		C		

Self-Assessment Statement

Declaration

I declare that this portfolio presents my individual contributions to the outcomes achieved by my Squad as well as my personal submissions. I have not copied from any other student's work or from any other source except where due acknowledgment is made explicitly in the text, nor has any part of this submission been written for me by another person.

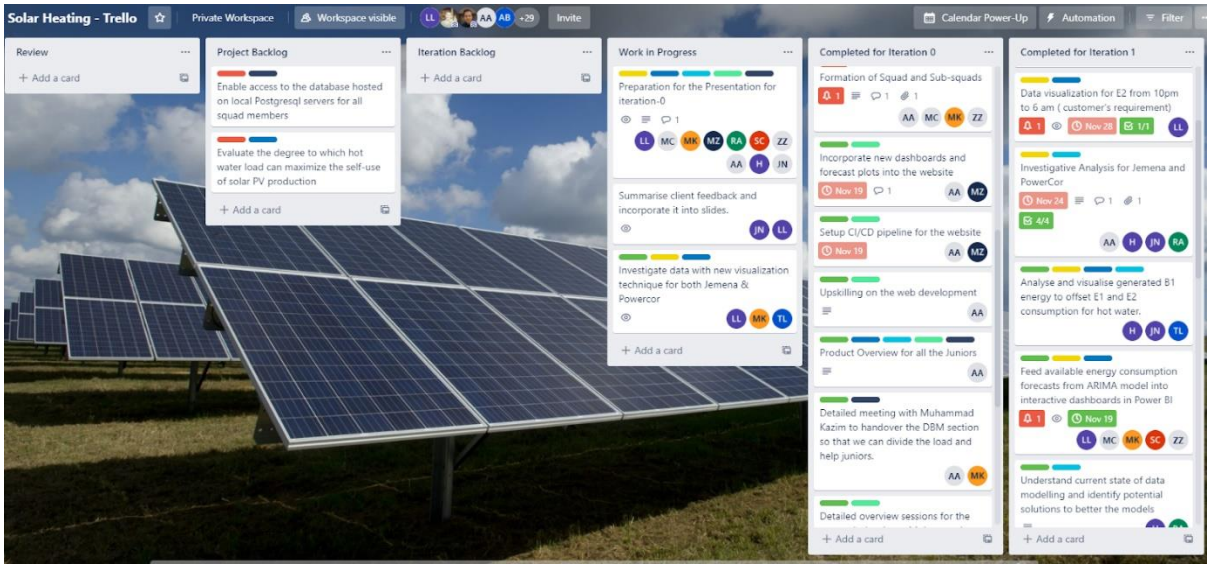
Signature: **Linh**

Part 1: Reflection on completed project work

This portfolio includes work that demonstrates that I have achieved all assessment criteria for SIT374/SIT764 to a **Credit** level.

Professional Behaviour: Credit

I stayed professional throughout the project. Professionalism has been demonstrated by expressing timely behaviour in Microsoft Teams channels and meetings and communicating appropriately with team members and customers. In addition, I do not think it hindered the progress of the team, but it was a collaborative team member. Evidence of my professionalism is in the solar heating channel, which includes conversation and communication with team members (Trello and the Team). In addition, my action is to appear on time and behave accordingly at a planned mentor meeting.



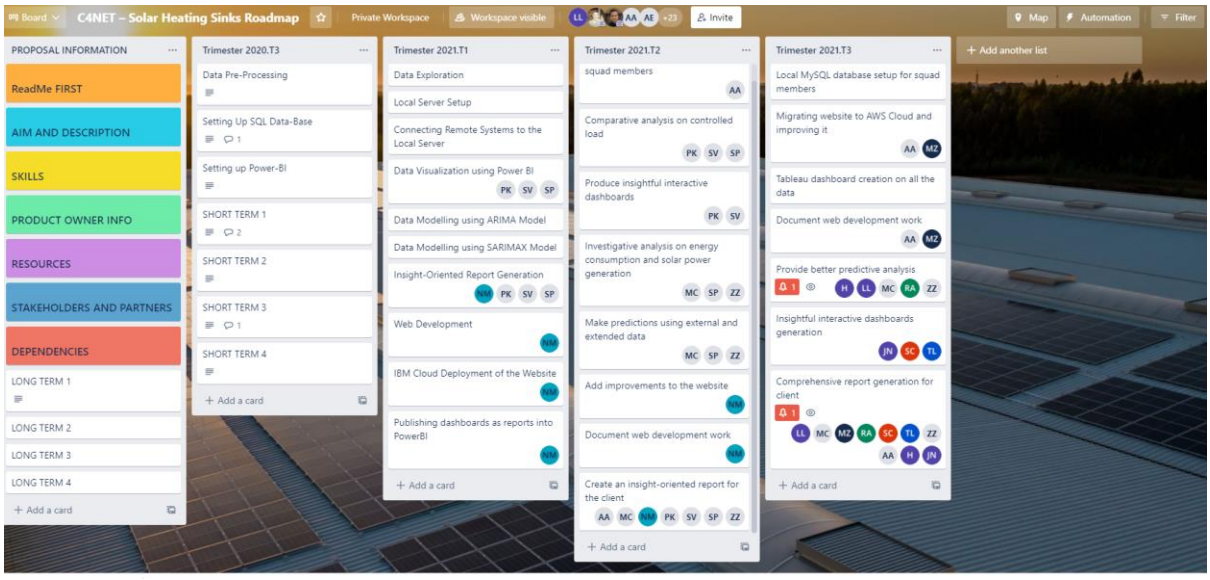


Figure 1. Solar Heating Trello

Accountability (Worklogs): Credit

I currently work 130 hours for the entire project, more than 20 hours a week (6 weeks total). In particular, I've spent nearly 45 hours on projects in the last two weeks. I have committed myself to many deliverables and achieved them.

Le Anh Linh	04/12/2021	180	Contribution	Continued wokring on iteration 1
Le Anh Linh	04/12/2021	30	Contribution	Revising presentation slides to prepare some answers if being asked
Le Anh Linh	05/12/2021	120	Task Completion	Completed working on iteration 1 individual retrospective
Le Anh Linh	05/12/2021	120	Task Completion	Completed script to be read for panel presentation
Le Anh Linh	05/12/2021	30	Squad Meeting	Meeting with team about panel presentation
Le Anh Linh	06/12/2021	120	Scheduled Class	Watched scheduled class recording
Le Anh Linh	06/12/2021	30	Squad Meeting	Meeting with team about the presentation
Le Anh Linh	08/12/2021	30	Squad Meeting	Presented final panel presentation with mentor
Le Anh Linh	08/12/2021	30	Squad Meeting	Connected with juniors to discuss squad leader and hand over document
Le Anh Linh	09/12/2021	180	Up-Skilling	Fixed some issues about visualizing by seaborn
Le Anh Linh	12/12/2021	180	Contribution	Adjusting dashboards with new name (Network1- Jemena , Network 2- Powercor) for handover and creating new dashbroad
Le Anh Linh	13/12/2021	180	Contribution	Preparing the handover document and add more some description
Le Anh Linh	13/12/2021	20	Squad Meeting	Discussing the progress with team
Le Anh Linh	14/12/2021	60	Task Completion	Finalised dashboards with handover document
Le Anh Linh	14/12/2021	180	Up-Skilling	Researched the different kind of plots by seaborn
Le Anh Linh	15/12/2021	180	Contribution	Started to write the learning summary
Le Anh Linh	15/12/2021	180	Squad Meeting	Making more plots by seaborn
Le Anh Linh	16/12/2021	30	Contribution	Discussing with James about iteration 1 and guide him how to visualize by seaborn
Le Anh Linh	16/12/2021	180	Contribution	Finising the learning summary
Le Anh Linh	17/12/2021	180	Contribution	Fixed the learning summary

Figure 2. Worklog

Attendance: Credit

I attended almost all upcoming management, client, and mentor meetings (95%). I missed some sub-squad meetings, so I was able to watch the recording and remember the information I missed. Proof of my attendance by not all sessions recorded by executives. Similarly, my presence at the mentor meeting is evidenced by the recorded presence of the mentor.

Total Number of Participants	12		
Meeting Title			
Meeting Start Time	19/11/2021, 14:41:19		
Meeting End Time	19/11/2021, 15:23:54		
Meeting Id	16db5de6-7ea7-46df-a488-87d56b559d97		
Full Name	Join Time	Leave Time	Duration
ADNAN ADNAN	19/11/2021, 14:41:19	19/11/2021, 15:23:50	42m 31s
SANKET CHHAPARWAL	19/11/2021, 14:42:00	19/11/2021, 15:23:51	41m 51s
WILLIAM TAN YOON LOK	19/11/2021, 14:42:01	19/11/2021, 15:23:53	41m 52s
JAMES ELLIOTT NEMECEK	19/11/2021, 14:43:00	19/11/2021, 15:23:53	40m 53s
ZHIGUI ZHANG	19/11/2021, 14:43:05	19/11/2021, 15:23:53	40m 48s
HUGH WAN JUN YUAN	19/11/2021, 14:43:10	19/11/2021, 15:23:53	40m 43s
KHURRAM ZEESHAN	19/11/2021, 14:43:26	19/11/2021, 15:23:51	40m 24s
ANH LINH LE	19/11/2021, 14:43:37	19/11/2021, 15:22:06	38m 28s

Meeting Start Time	23/11/2021, 17:57:36		
Meeting End Time	23/11/2021, 18:47:54		
Meeting Id	6063790f-727d-4df3-a25e-0a0a750cff0e		
Full Name	Join Time	Leave Time	Duration
SANKET CHHAPARWAL	23/11/2021, 17:57:36	23/11/2021, 18:47:47	50m 11s
JAMES ELLIOTT NEMECEK	23/11/2021, 17:58:00	23/11/2021, 18:27:15	29m 15s
ANH LINH LE	23/11/2021, 17:58:05	23/11/2021, 18:27:03	28m 58s
ANH LINH LE	23/11/2021, 18:29:15	23/11/2021, 18:45:23	16m 8s

Figure 3. Team meetings

Engagement: Credit

I was actively involved in discussions and results of team activities. My active participation is shown in the recorded team meetings and the Microsoft Teams chat channel. In addition, this was shown at the mentor meeting. So I asked the mentor I and my team had some issues with Bitbucket and "Can I add the visualization to a Microsoft team folder instead of Bitbucket?" or “Following the feedback from Iteration 1, I was asked to get better performance on the next task”. And discuss how work completed fits into the project with the leader of data visualization team as well as fixed our panel presentation with team leader. Addtionally, my team have many juniors as well as the limitation of time, although my product had not shown on our slides, I have still tried to contribute by giving some feedbacks, then we had HD project. Finally, I had finished my handover on time as well as adding more some description by the leader’s requirements.

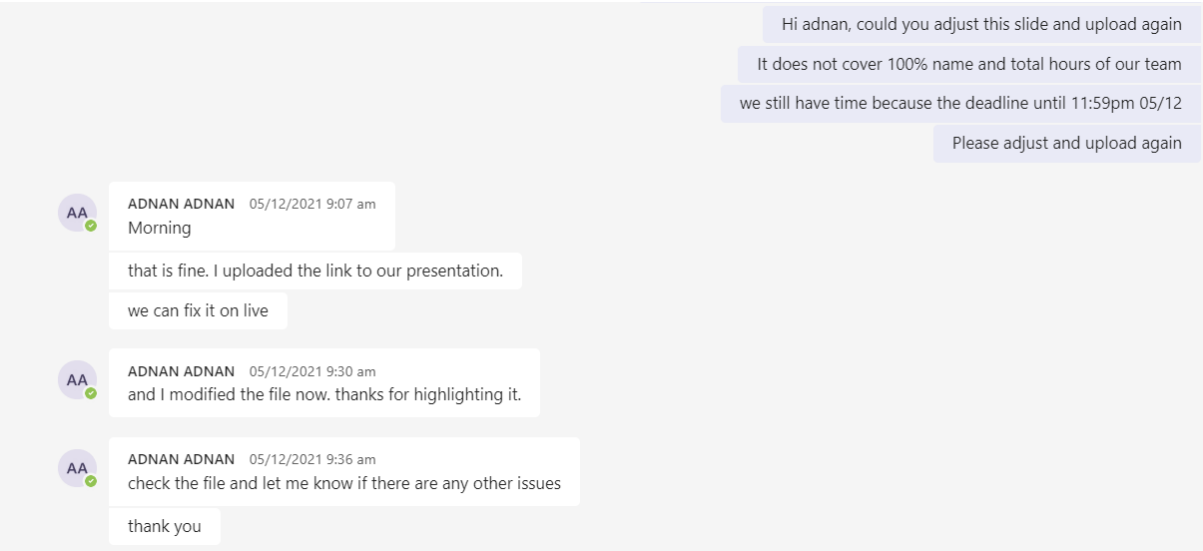
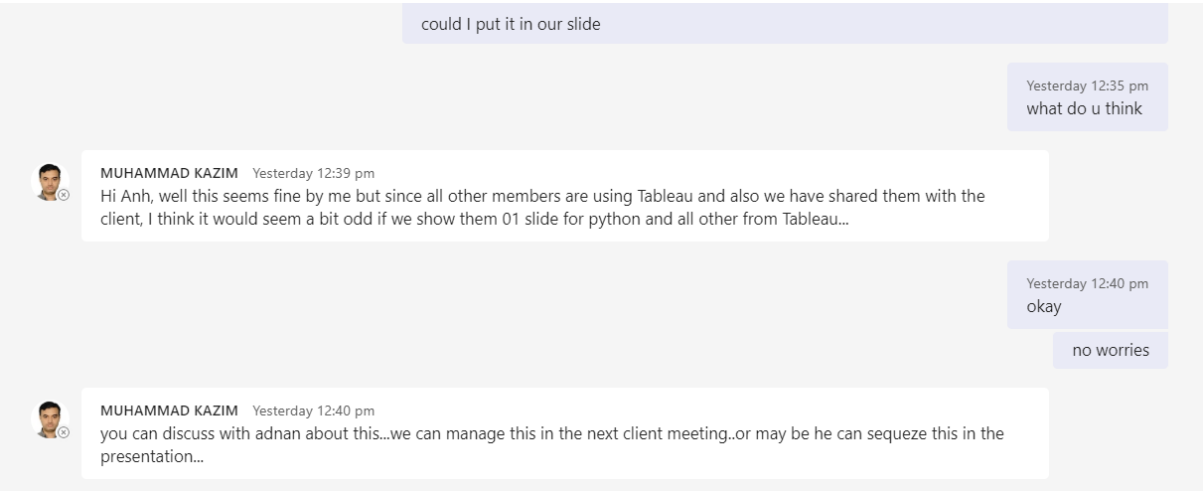


Figure 4. Discussing with team leader about the panel presentation.


MUHAMMAD KAZIM
Chat
Files
Organization
Activity
sql_jemena_sumall_tim...
AREA
Metro
Region
CHANNEL
E1
E2
B2
B3
E3
Q3
E4
WEEKDAY
ENERGY_AVG
HOUR
channel
E2
hi mate
according to our mentor 's requirement, I try to use the seaborn Python library to visualize the data


could I put it in our slide
Yesterday 12:35 pm
what do u think
MUHAMMAD KAZIM Yesterday 12:39 pm
Hi Anh, well this seems fine by me but since all other members are using Tableau and also we have shared them with the client, I think it would seem a bit odd if we show them 01 slide for python and all other from Tableau...
Yesterday 12:40 pm
okay
no worries
MUHAMMAD KAZIM Yesterday 12:40 pm
you can discuss with adnan about this...we can manage this in the next client meeting..or may be he can sequeze this in the presentation...

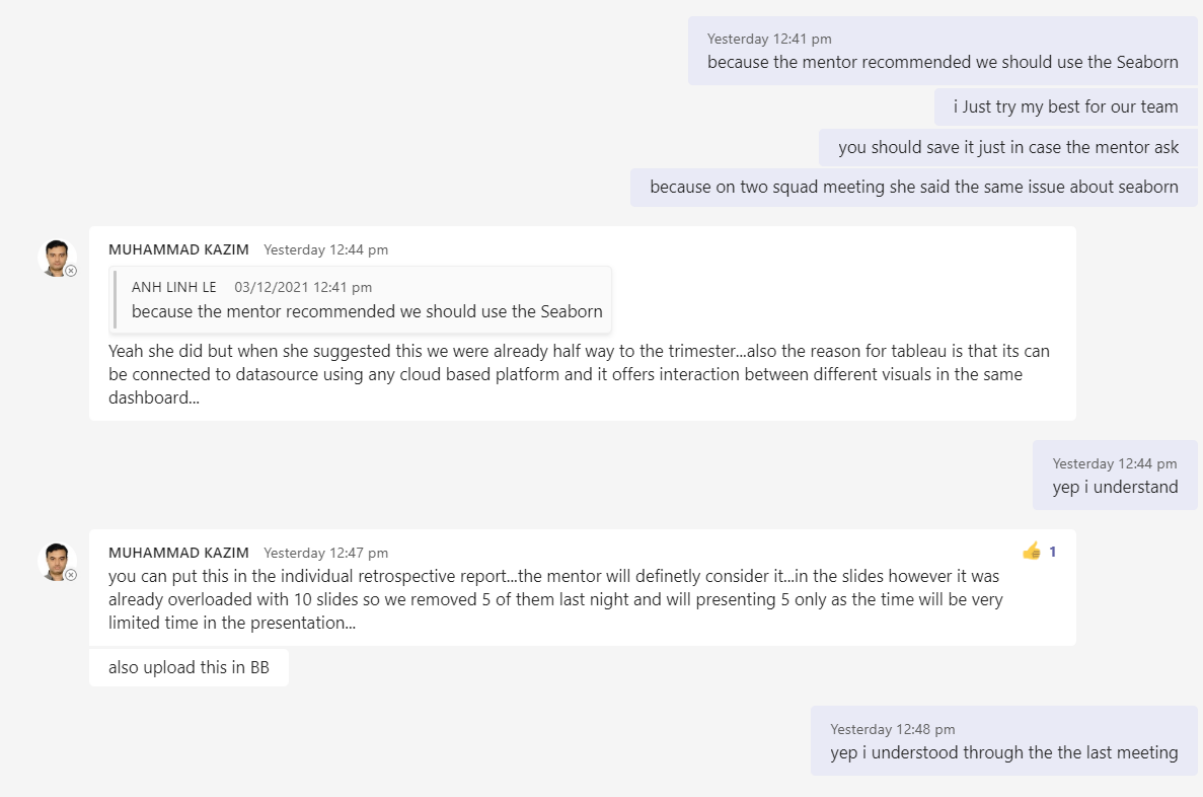


Figure 5. Disscusing with the leader of visualization

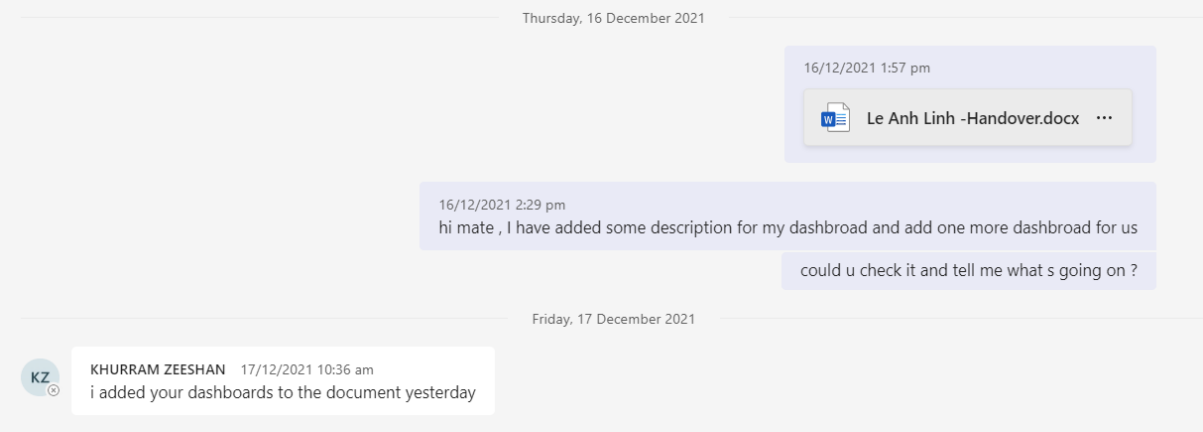


Figure 6. Disscusing with the leader of handover.

Communication: Credit

I communicated with my teammates and mentor via Microsoft Team. I also communicated with client through Microsoft meeting. For example, after getting the recommendation of mentor through the first and second squad meeting with her, I actively started to try using Seaborn in order to visualize the requirements of client (E2 from 10 pm to 6 am for Powercor). I will do whatever could be ensure our success as well as help other team member could do Seaborn like me.

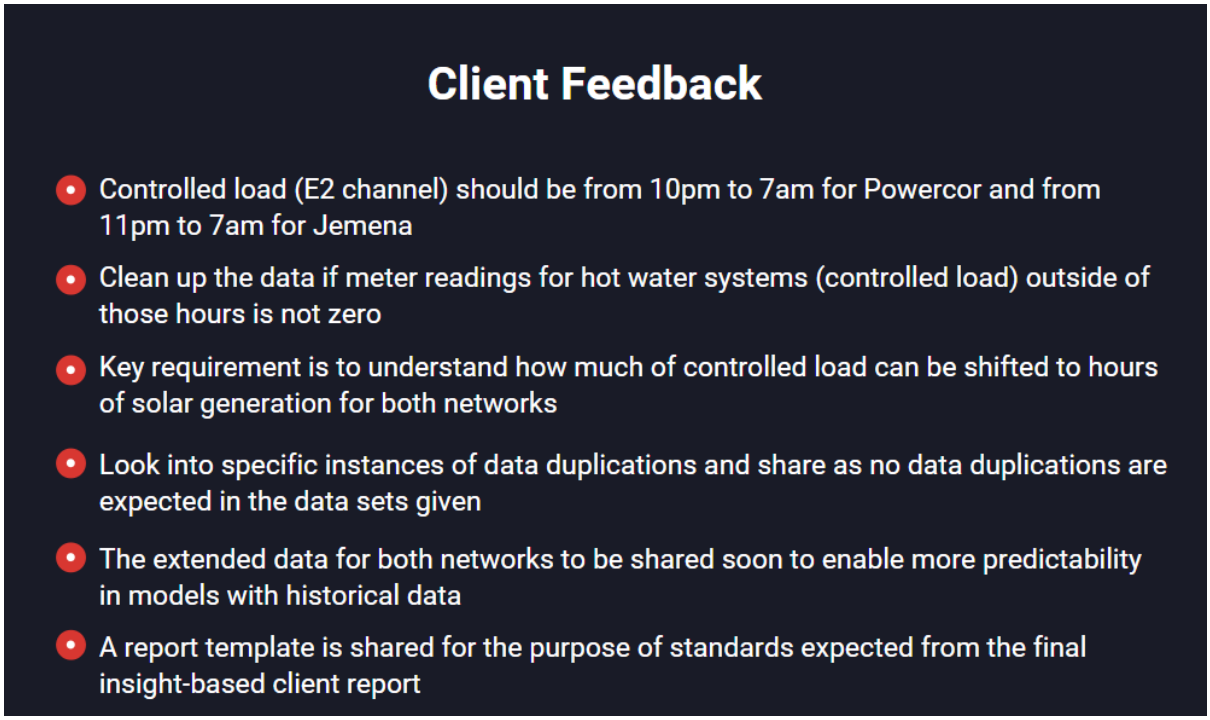


Figure 7. Meeting with client and their feedback.

Teamwork: Credit

I worked on the data visualization with 3 other members. I had planned and actively completed the task through Trello (Figure 1) as well as Team channel (Data visualization group) at the high quality. I also worked with the other senior member to contribute the handover artefact. After dicussing with data visualization team, I try to make creative dashboards and one of my method is using Seaborn to able to demonstrate effectively.

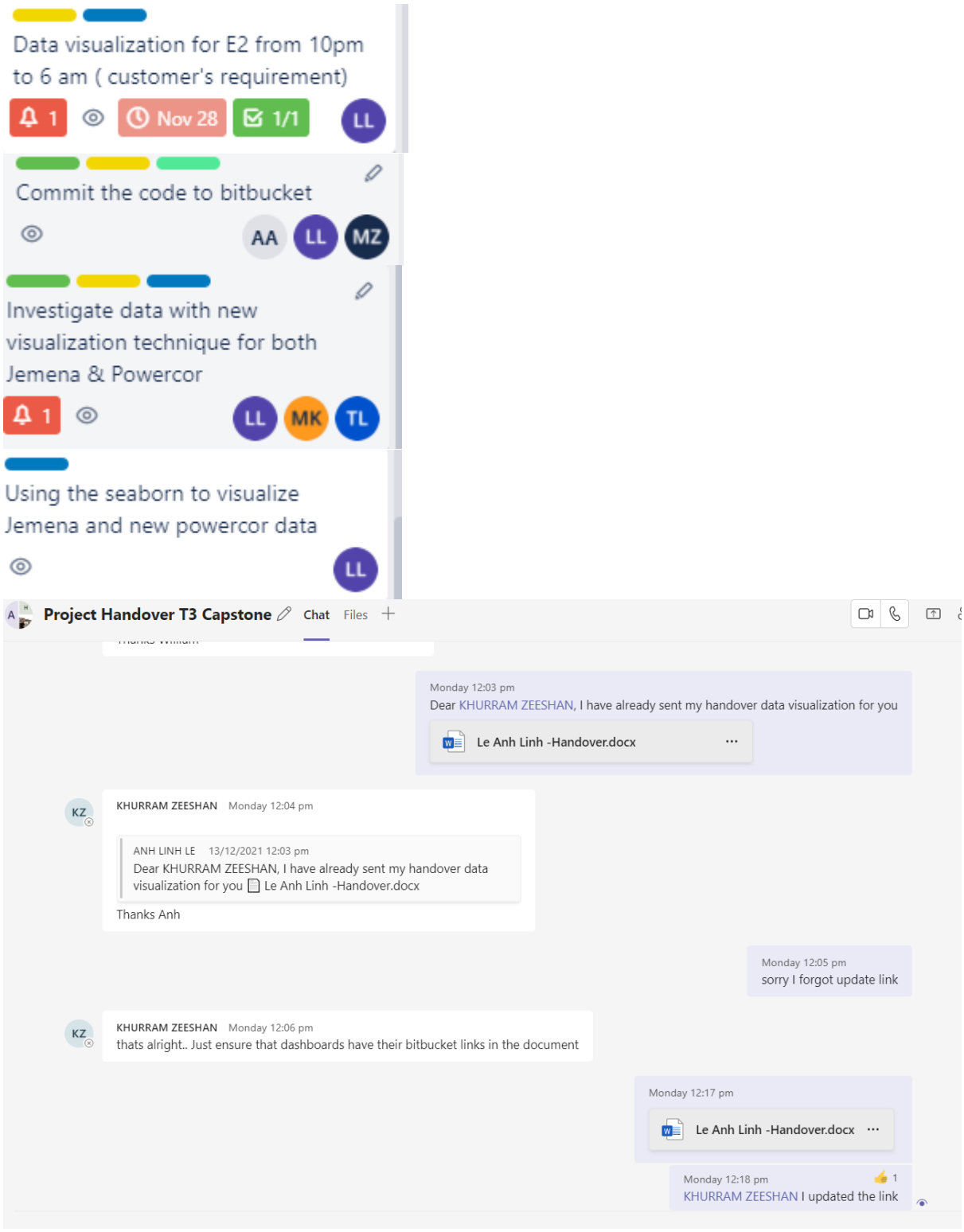


Figure 8. Trello and Project Handover T3.

Process: Credit

I have followed recommened the squad process of storing data, visualization and updated communication with my team members and mentor. From the first and second week, we

had to work with Jemena data and powercor data. But the client gave us new power data (Week 3), I had tried to clean data and add new feature " City name", used Seaborn to visualize (Mentor's feedback) and updated tableau public on our website and Bitbucket. Finally, I have made the handover clear and effective for the next team.

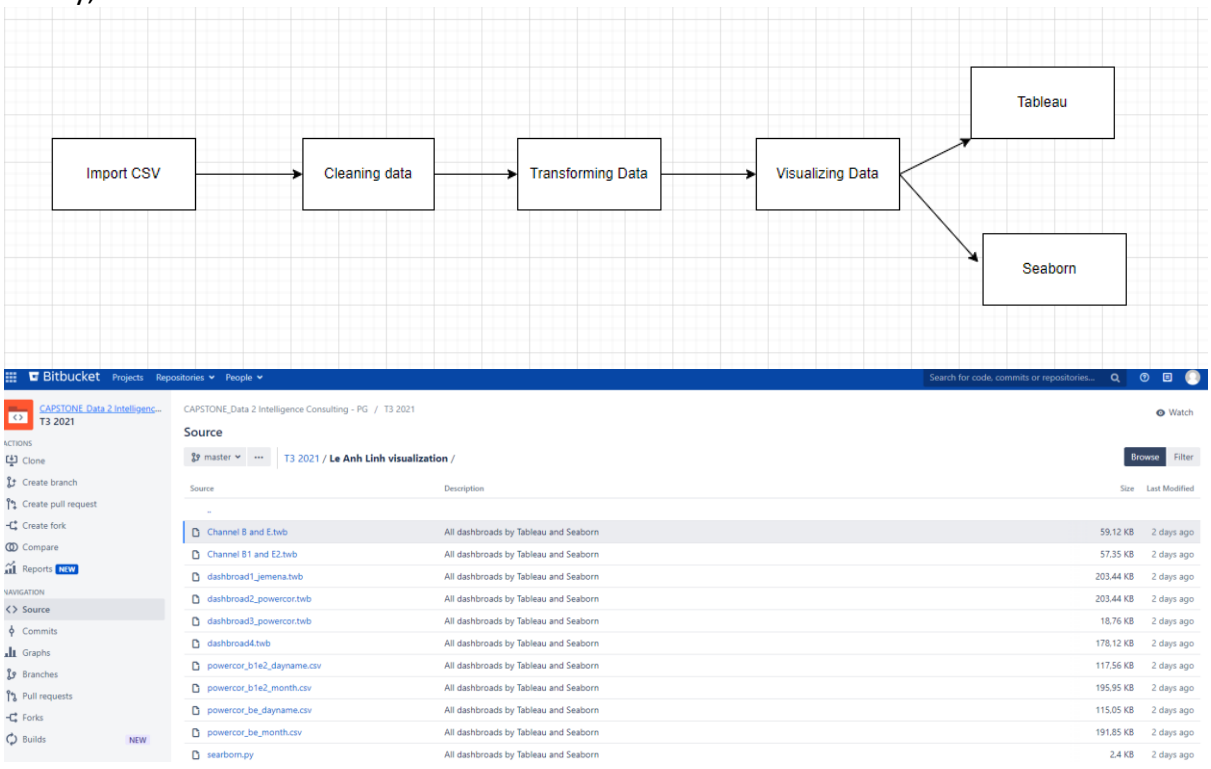


Figure 9. My process of visualization and bitbucket

Product: Credit

I successfully contributed to the data visualization team with Tableau dashboards and Seaborn plots (mentor's recommendation). In addition, these contributions are clarified by the final web page, delivery, and previous figures that show a visual analysis of the data. The data visualization is applied by Seaborn, which has high-level as well as high standard.

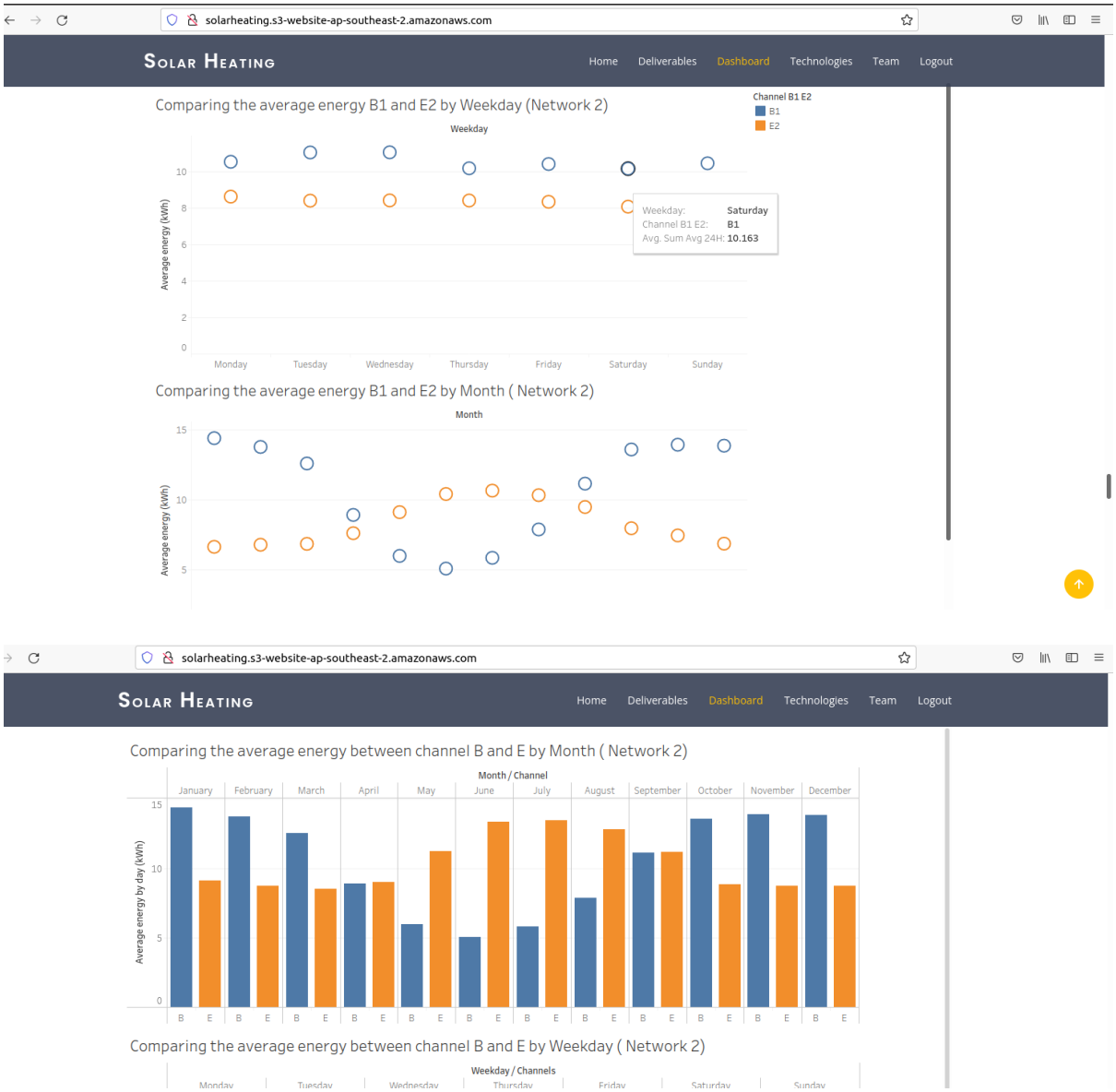
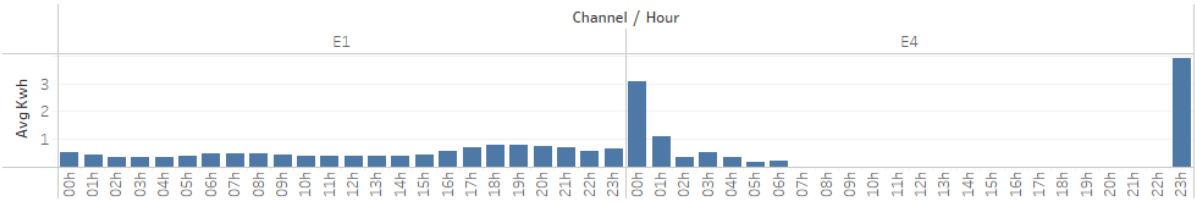


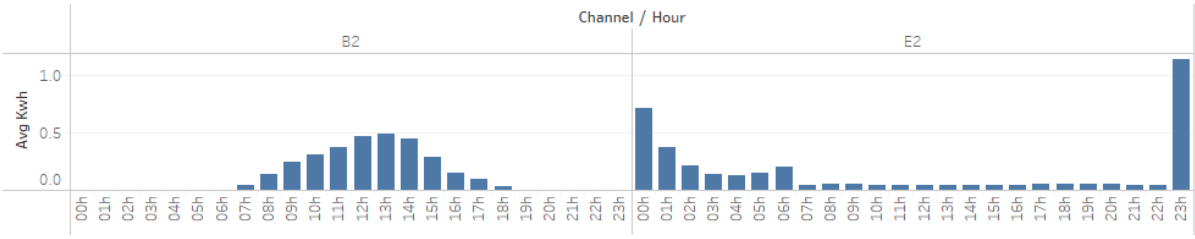
Figure 9.2 My data visualization on our website

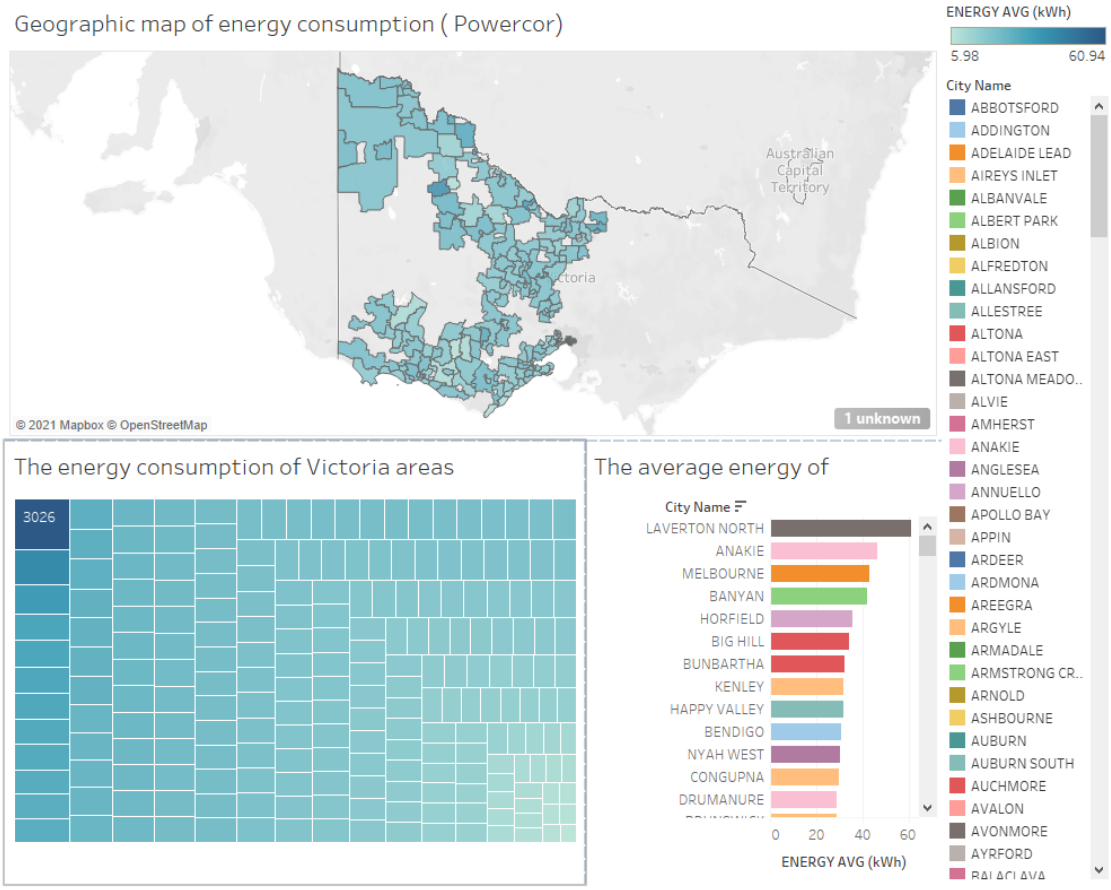
Comparison between different channels for energy consumption and generation (Network 1)

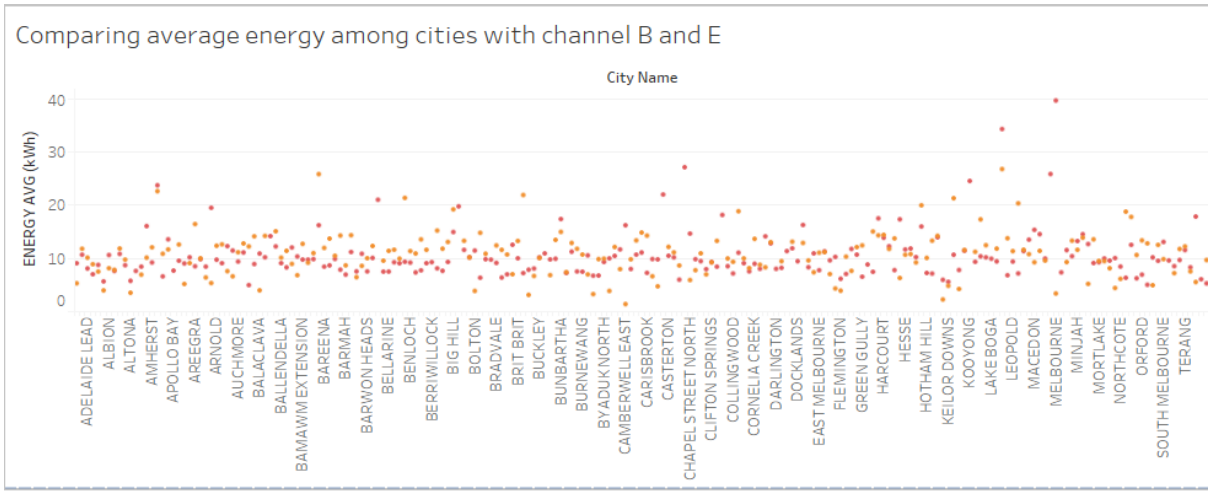
Comparing the average of the two highest channels

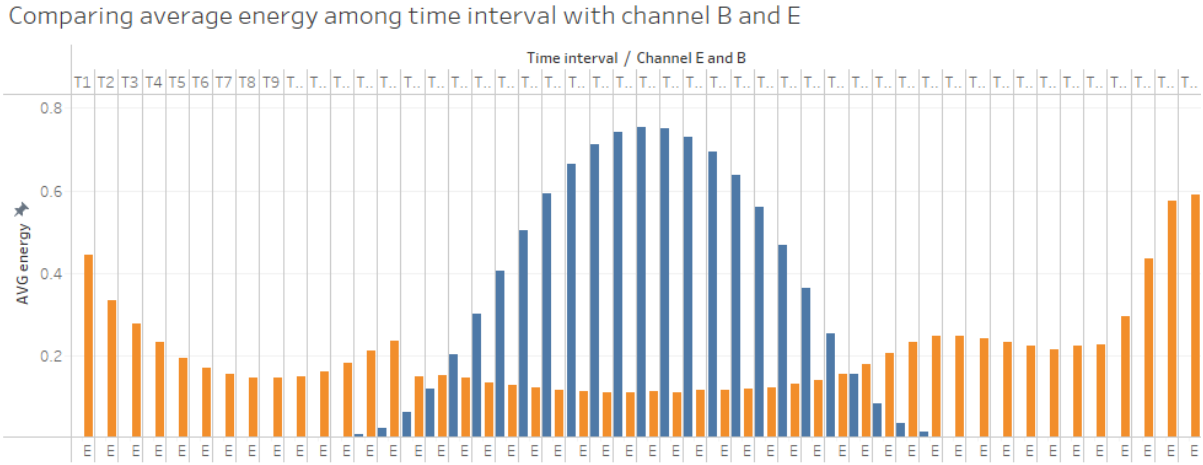


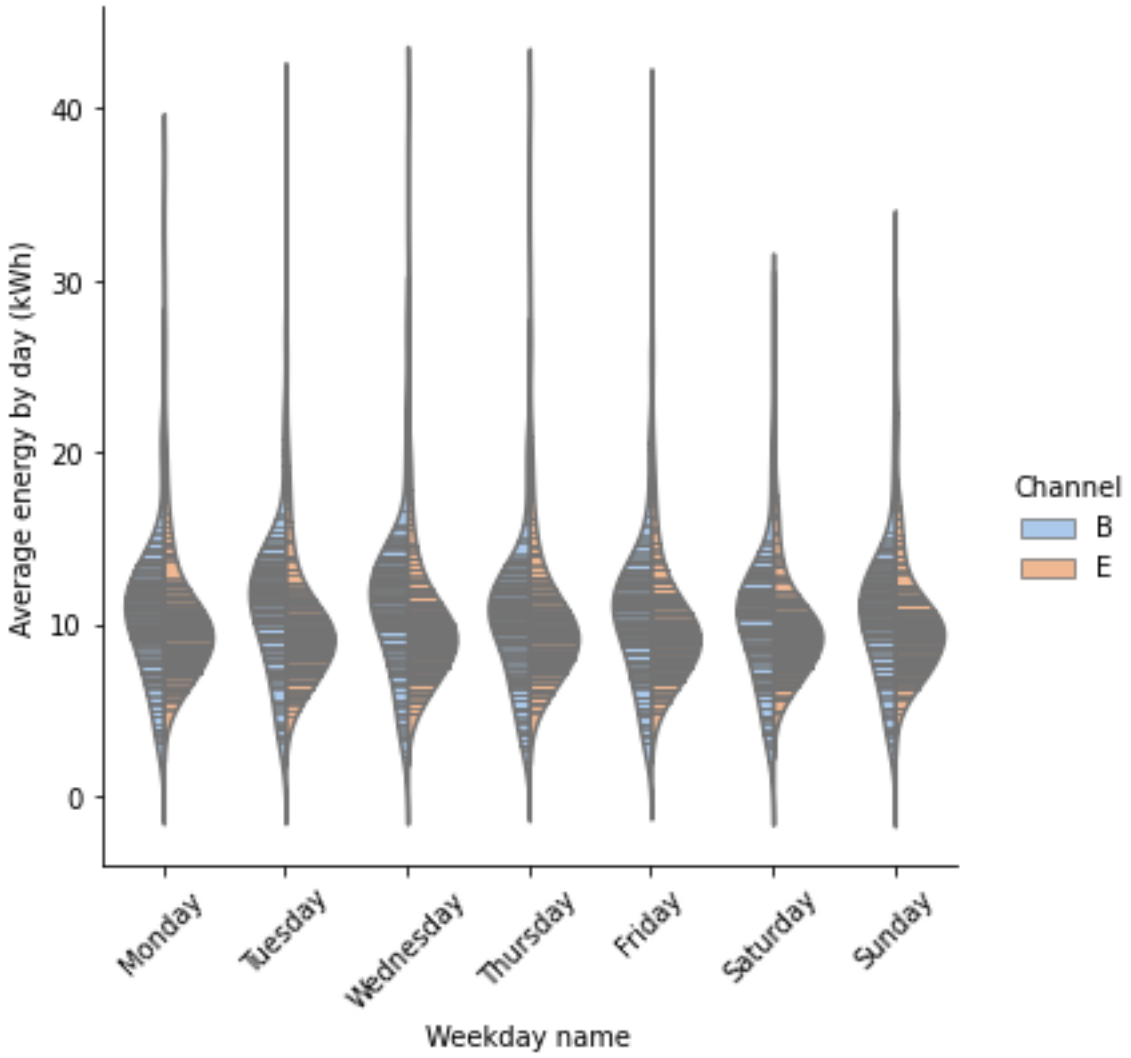
Comparing the average of the two smallest channels

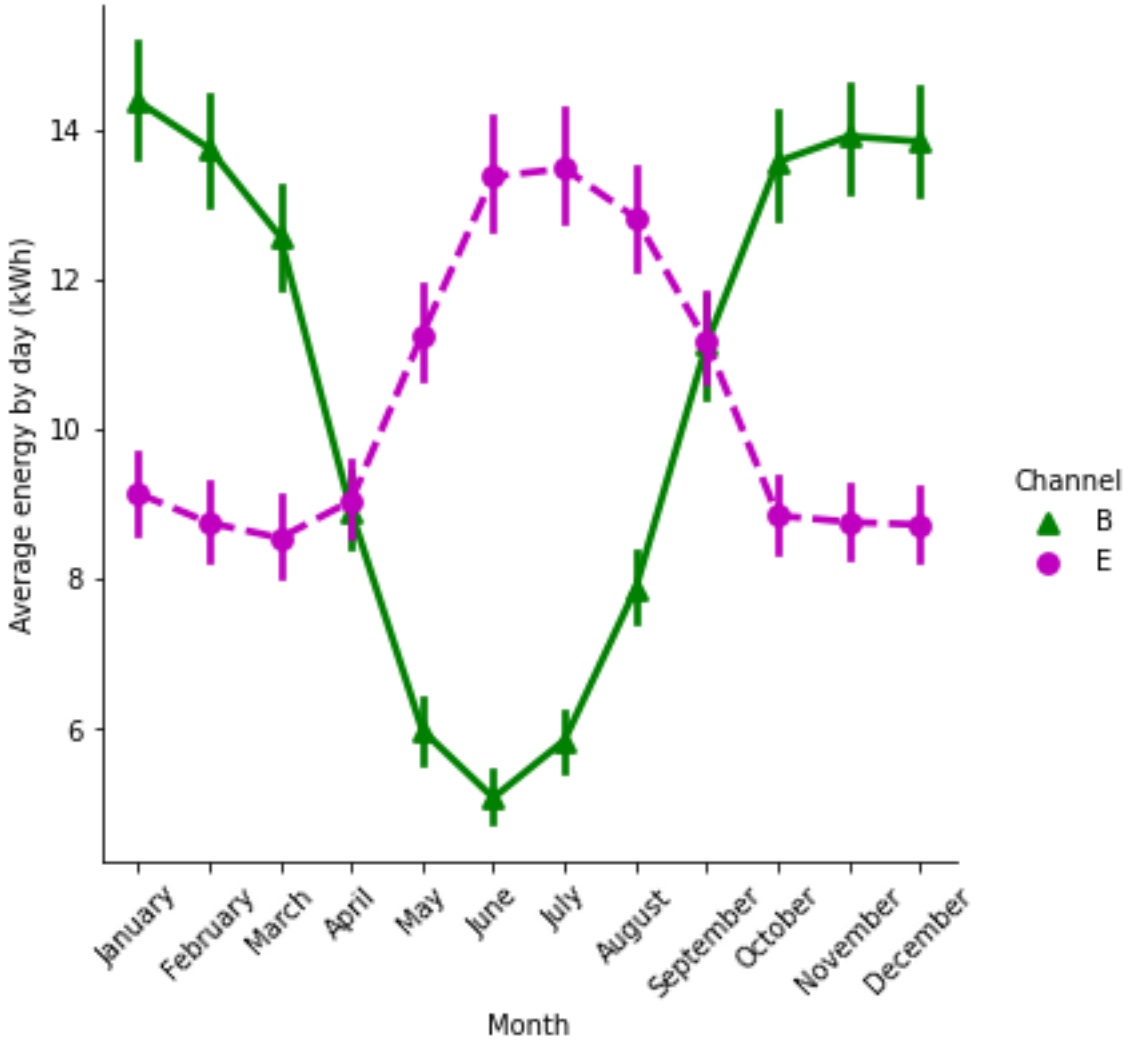


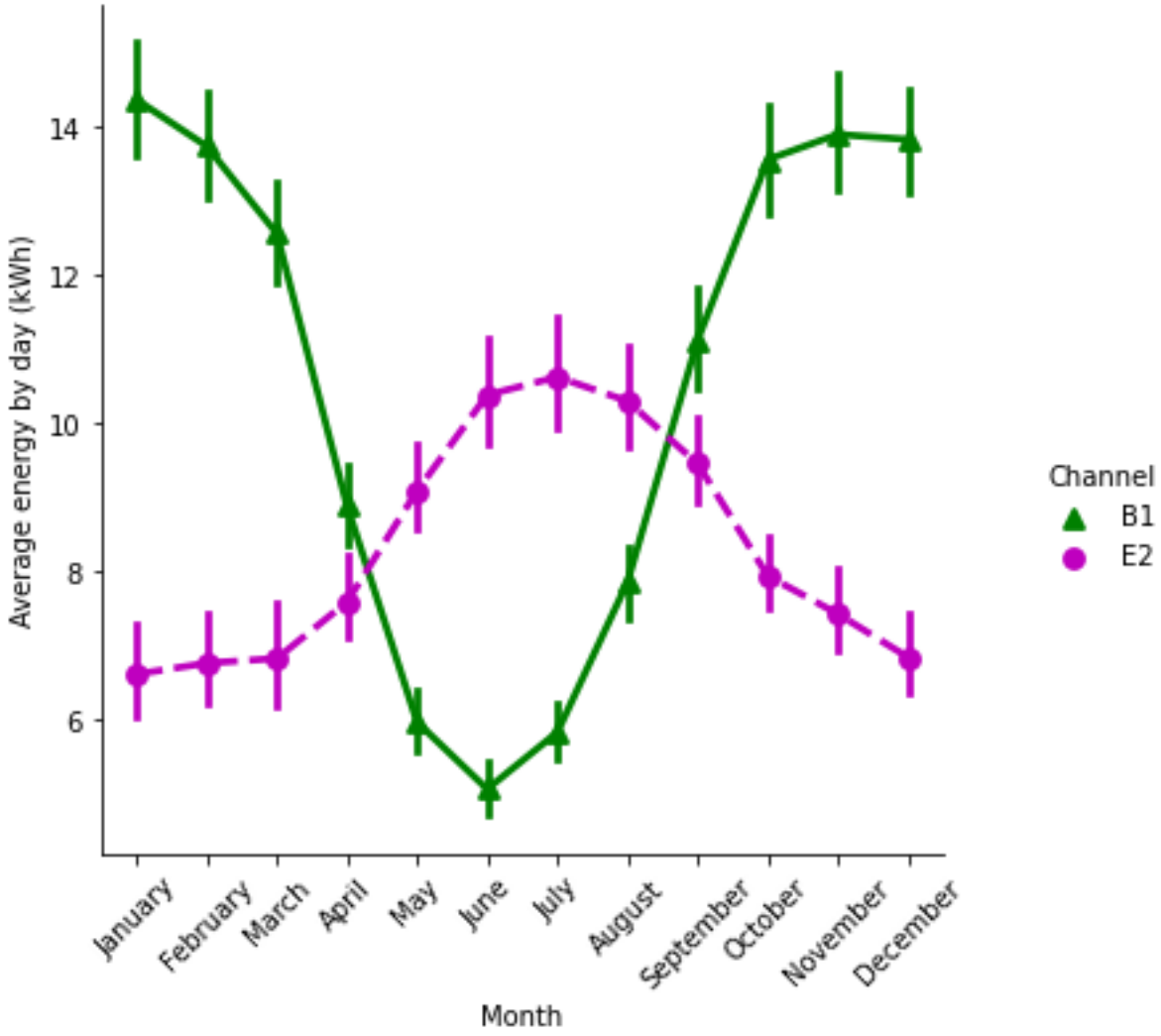

Geographic map of energy consumption (Powercor)
Australian Capital Territory
© 2021 Mapbox © OpenStreetMap
1 unknown
ENERGY AVG (kWh)
5.98
60.94
City Name
ABBOTSFORD
ADDINGTON
ADELAIDE LEAD
AIREYS INLET
ALBANVALE
ALBERT PARK
ALBION
ALFREDTON
ALLANSFORD
ALLESTREE
ALTONA
ALTONA EAST
ALTONA MEADO..
ALVIE
AMHERST
ANAKIE
ANGLESEA
ANNUELLO
APOLLO BAY
APPIN
ARDEER
ARDMONA
AREEGRA
ARGYLE
ARMADALE
ARMSTRONG CR..
ARNOLD
ASHBOURNE
AUBURN
AUBURN SOUTH
AUCHMORE
AVALON
AVONMORE
AYRFORD
The energy consumption of Victoria areas
3026
The average energy of
City Name
LAVERTON NORTH
ANAKIE
MELBOURNE
BANYAN
HORFIELD
BIG HILL
BUNBARTHA
KENLEY
HAPPY VALLEY
BENDIGO
NYAH WEST
CONGUPNA
DRUMANURE
0
20
40
60
ENERGY AVG (kWh)

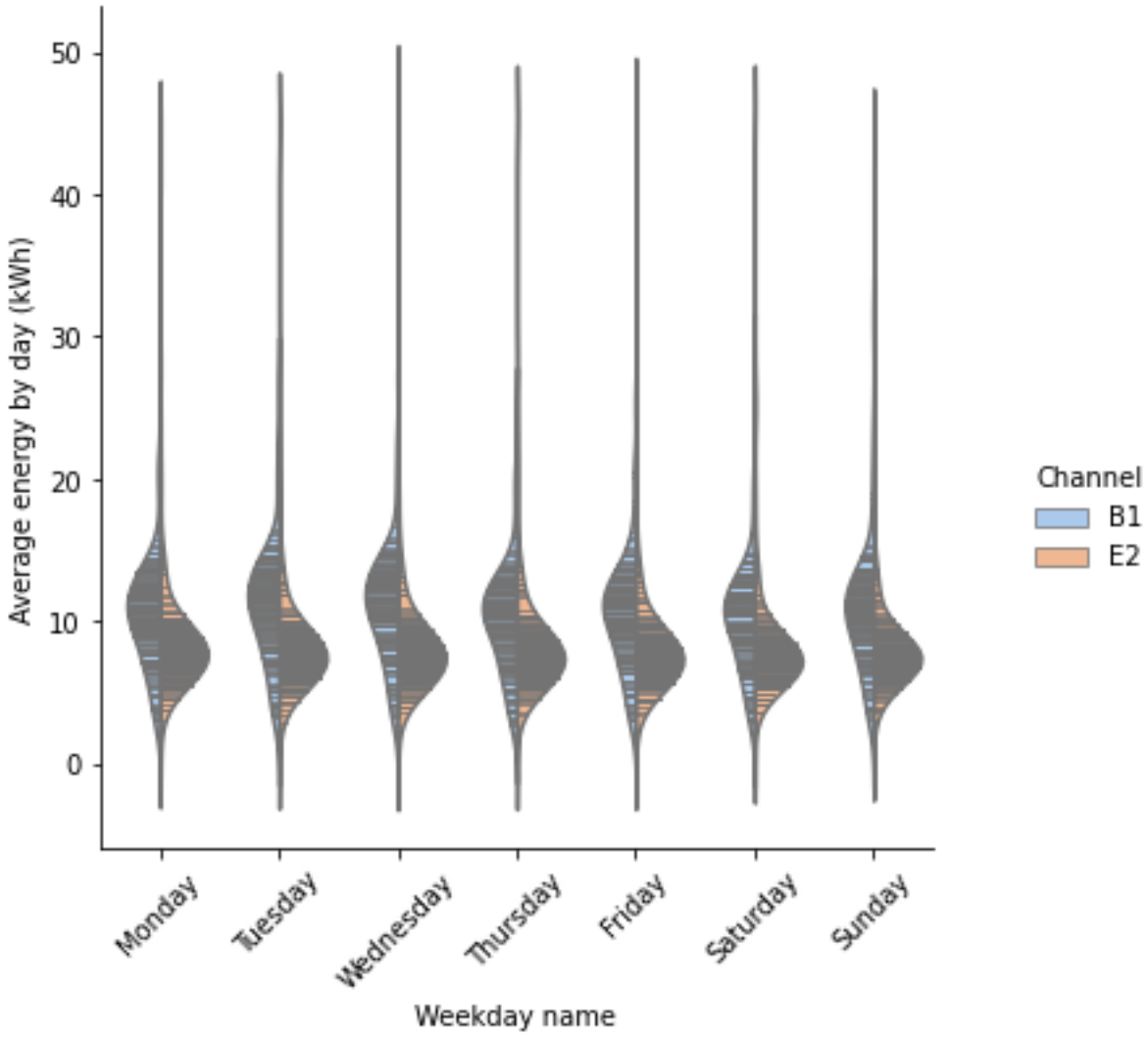

Comparing average energy among cities with channel B and E
City Name
ENERGY AVG (kWh)
40
30
20
10
0
ADELAIDE LEAD
ALBION
ALTONA
AMHERST
APOLLO BAY
AREEGRA
ARNOLD
AUCHMORE
BALACLAVA
BALLENDELLA
BAMAWM EXTENSION
BAREENA
BARMAH
BARWON HEADS
BELLARINE
BENLOCH
BERRIWILLOCK
BIG HILL
BOLTON
BRADVALE
BRIT BRIT
BUCKLEY
BUNBARTHA
BURNEWANG
BYADUK NORTH
CAMBERWELL EAST
CARISBROOK
CASTERTON
CHAPEL STREET NORTH
CLIFTON SPRINGS
COLLINGWOOD
CORNELIA CREEK
DARLINGTON
DOCKLANDS
EAST MELBOURNE
FLEMINGTON
GREEN GULLY
HARCOURT
HESSE
HOTHAM HILL
KEILOR DOWNS
KOOYONG
LAKE BOGA
LEOPOLD
MACEDON
MELBOURNE
MINJAH
MORTLAKE
NORTHCOTE
ORFORD
SOUTH MELBOURNE
TERANG

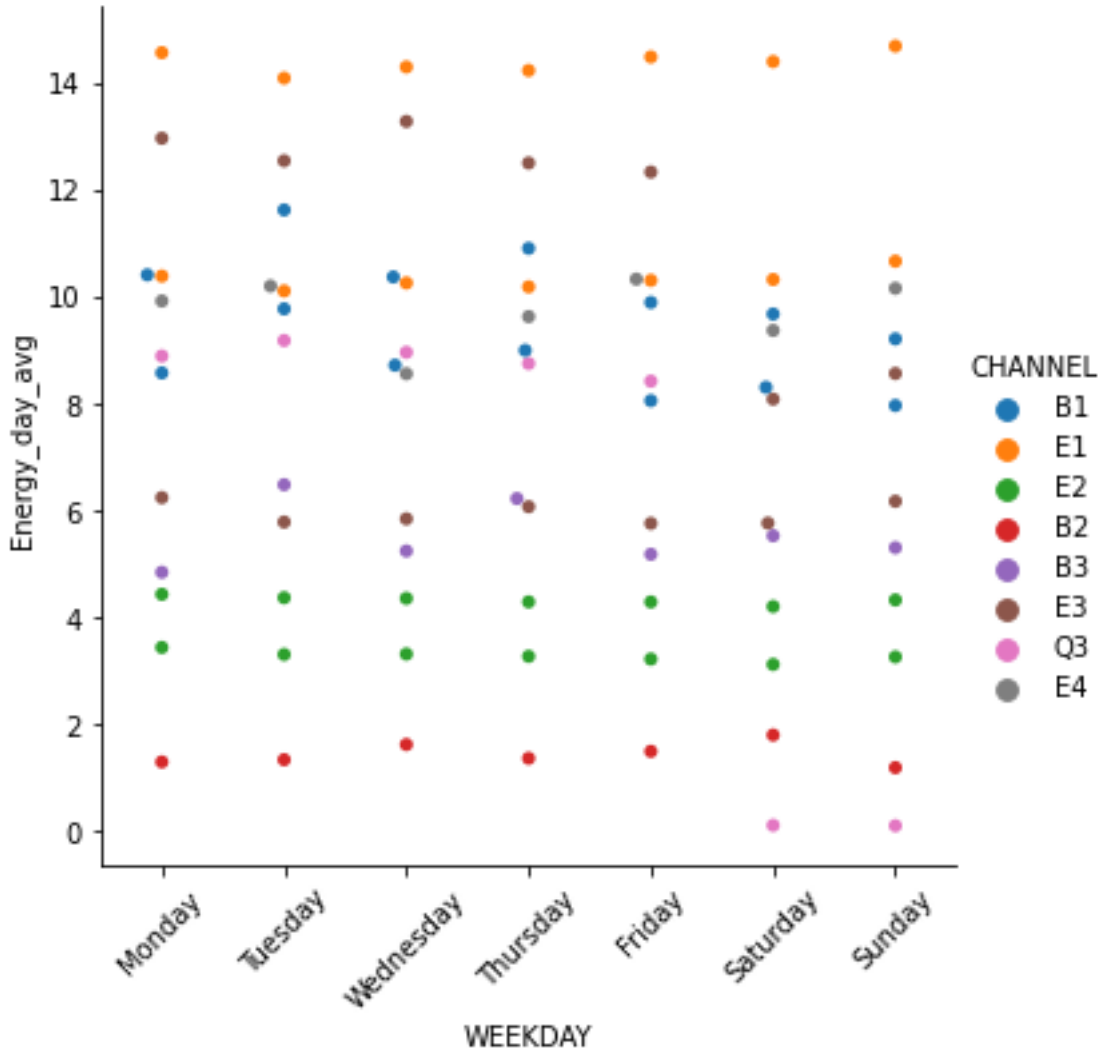

Comparing average energy among time interval with channel B and E
Time interval / Channel E and B
T1 T2 T3 T4 T5 T6 T7 T8 T9
AVG energy
0.8
0.6
0.4
0.2
E

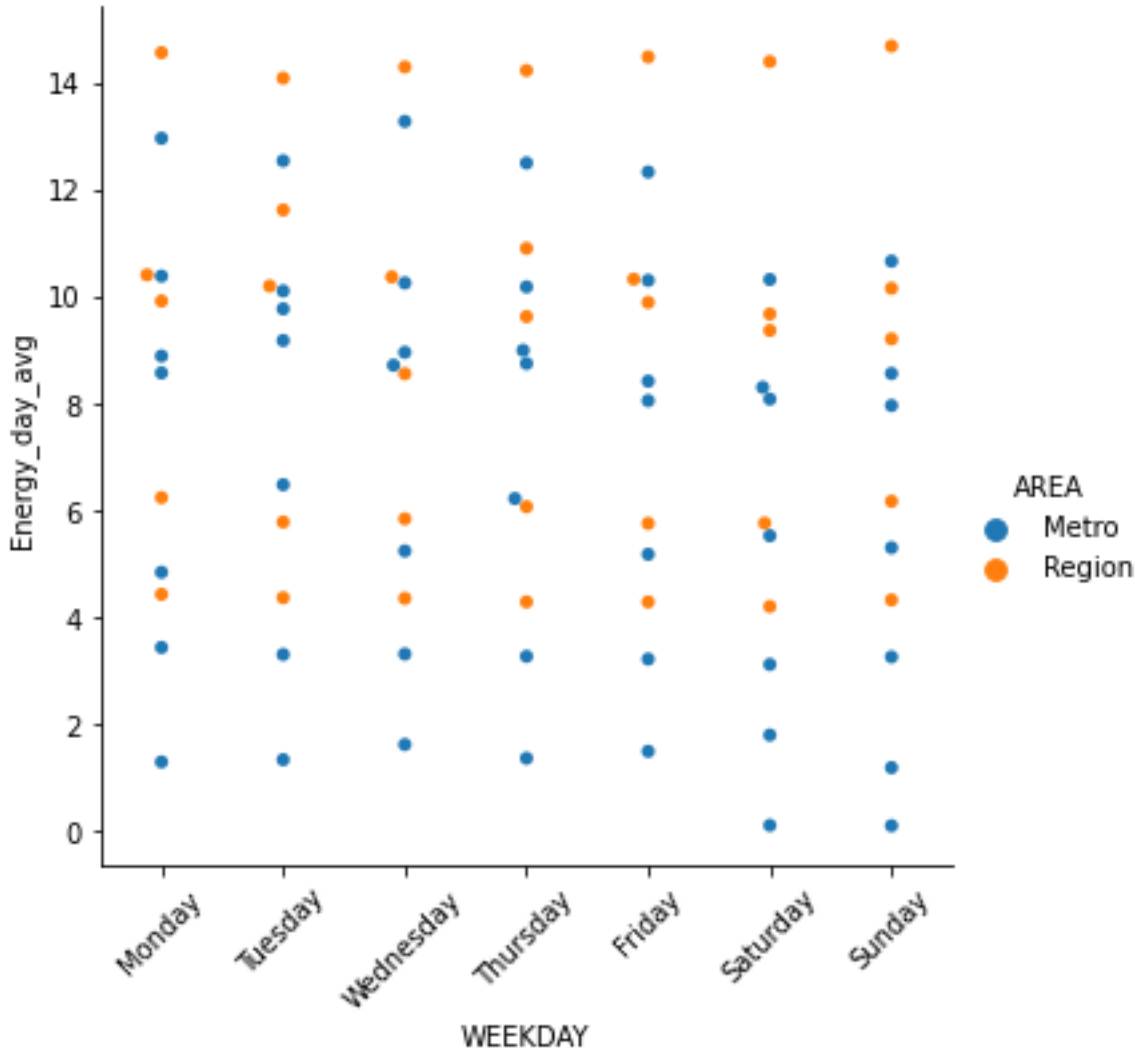

Average energy by day (kWh)
0
10
20
30
40
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Weekday name
Channel
B
E

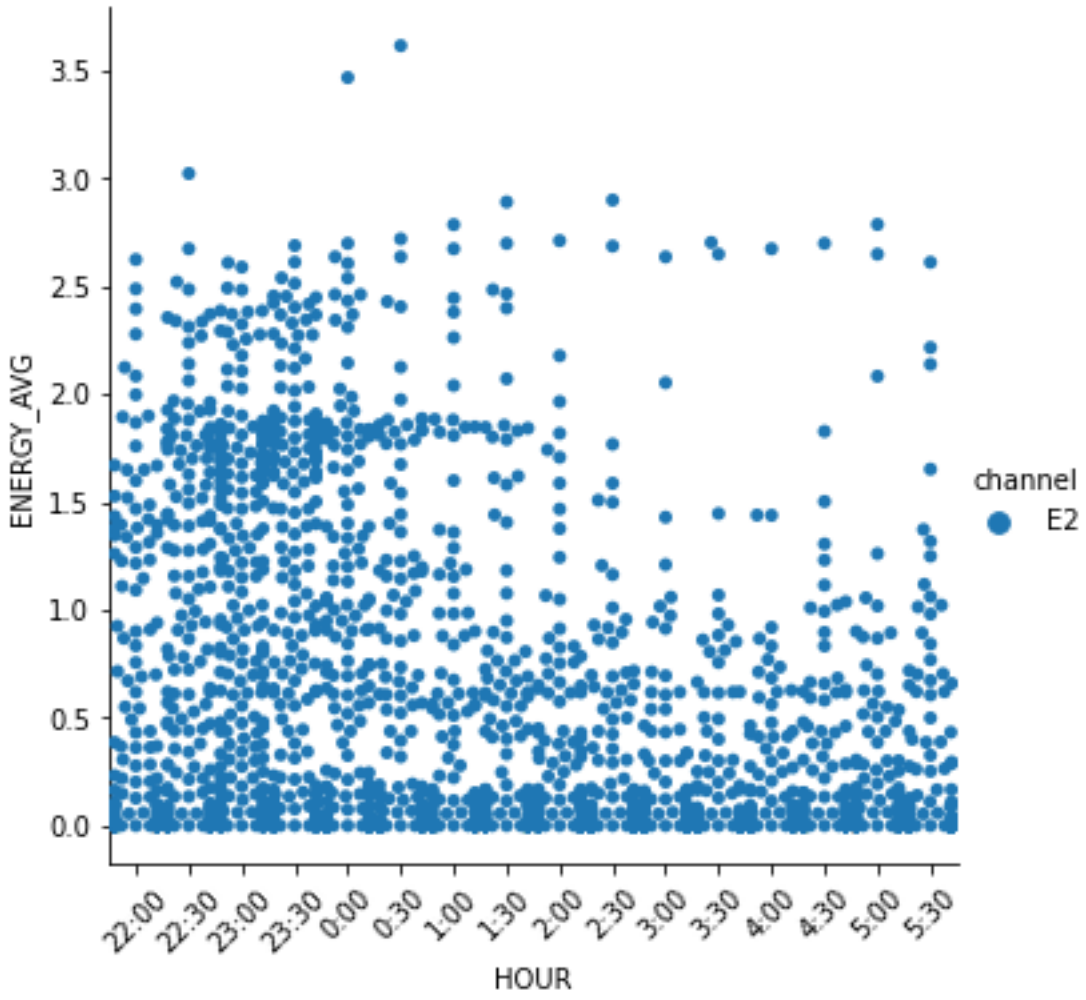

Average energy by day (kWh)
14
12
10
8
6
January
February
March
April
May
June
July
August
September
October
November
December
Month
Channel
B
E


Average energy by day (kWh)
14
12
10
8
6
January
February
March
April
May
June
July
August
September
October
November
December
Month
Channel
B1
E2


Average energy by day (kWh)
50
40
30
20
10
0
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Weekday name
Channel
B1
E2


Energy_day_avg
0
2
4
6
8
10
12
14
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
WEEKDAY
CHANNEL
B1
E1
E2
B2
B3
E3
Q3
E4


Energy_day_avg
0
2
4
6
8
10
12
14
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
WEEKDAY
AREA
Metro
Region



IT skills: Credit

The difficulty here is the presence of high volume of data, I have tried pandas and found that it could not handle this data - proving out of memory issue. Then I proceed to use MySQL server and sql to transform the data. This time I don't get out of memory issue anymore, everything takes about 5-10 minutes for 1 data transformation. I learned how to improve speed by indexing categorical data fields .This is a good trick to avoid editing the same long sql query over and over. Jemena and new powercore have a lot of columns (about 50 + columns), because there is a lot of repetition, I then used python to generate sql.Not only I stop using group data, but also actively and creatively find external data sources to enrich main data (as in the case of geo data, “city name”). Moreover, I could use Seaborn to visualize effectively and smoothly with fixed some minor issue.

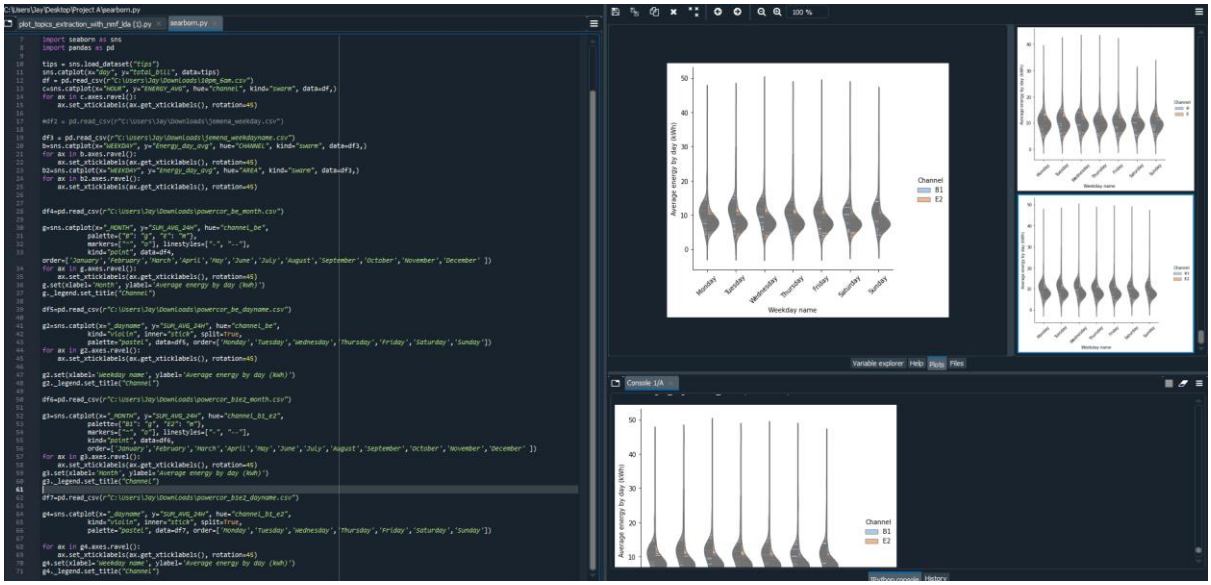


Figure 10. Visualization by Seaborn

```
list_sql=[]
for i in [45, 46, 47, 48, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]:
    i_text = str(i)
    sql = "\nSELECT channel, postcode, 'T"+i_text+"' AS HOUR , T"+i_text+" AS ENERGY_AVG \
    FROM power_core_e2_10pm_6am \
    GROUP BY channel, postcode \n"
    list_sql.append(sql)

print("UNION ALL".join(list_sql))
```

Figure 11. Python script for generating SQL

```
CREATE TABLE report_e2_10pm_6am AS

(
SELECT channel, postcode, '22:00' AS HOUR , T45 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '22:30' AS HOUR , T46 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '23:00' AS HOUR , T47 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '23:30' AS HOUR , T48 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '0:00' AS HOUR , T1 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '0:30' AS HOUR , T2 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '1:00' AS HOUR , T3 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '1:30' AS HOUR , T4 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '2:00' AS HOUR , T5 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '2:30' AS HOUR , T6 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '3:00' AS HOUR , T7 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
UNION ALL
SELECT channel, postcode, '3:30' AS HOUR , T8 AS ENERGY_AVG    FROM power_core_e2_10pm_6am    GROUP BY channel, postcode
```

```
CREATE TABLE Report4
(
SELECT r.*, p.`MIN(locality)` FROM report_3 r
LEFT JOIN australian_postcodes_1 p
ON r.postcode= p.postcode
)
```

Figure 12. SQL

Self-awareness: Credit

My skills and strengths are weak in data visualization. I was able to utilize this weakness and train for over 20 hours to get used to the data visualization of Tableau and Seaborn (Figure 2). This activity has enabled me to generate and provide useful visualizations that are present in the project (Figure 9.2) . I was aware of my weaknesses and was able to support the group in other areas. Not only did this contribute to the data visualization team, but I also learned new techniques for Tableau and Seaborn.

Project Management: Credit

In the Iteration-0, I and my teammates faced some problems with the dataset, I suggested that my team should use Python to connect Mysql server and organized the data visualization to help members who are not familiar with this task. In the Iteration-1, after getting feedback from Mentor (trying to use Seaborn), I am the first one, who have committed to visualize by Seaborn. The leader of visualization team was happy with my product as well as organized through sub-squad meeting to help other members who tried to learn this high-level skill (Figure 5, Figure 14).

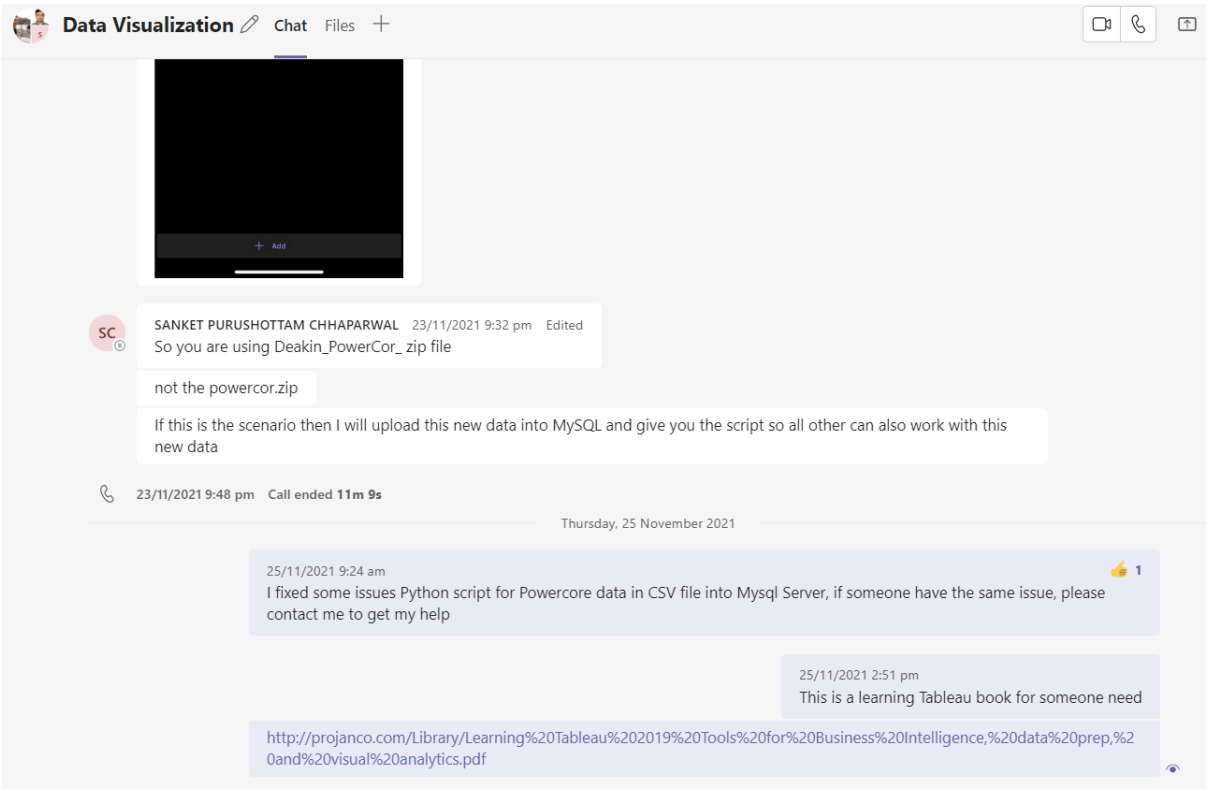
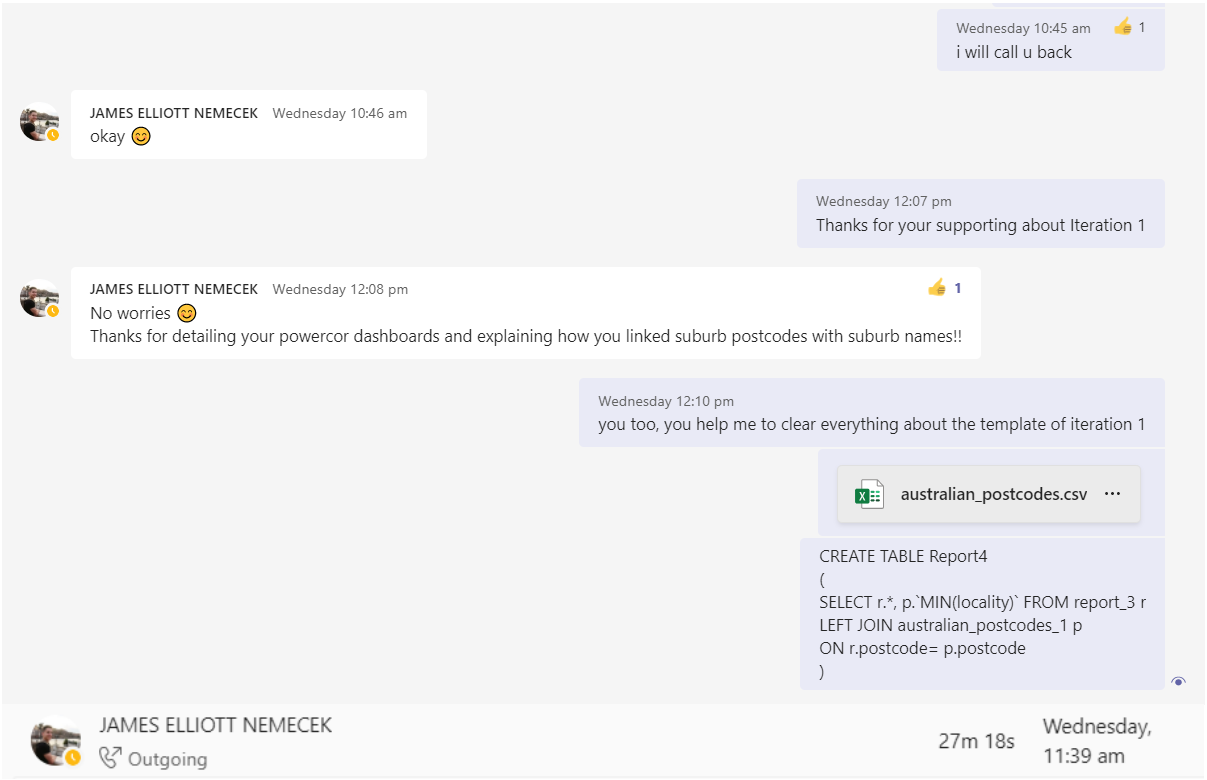


Figure 12.2 Organizing the data visualization group

Mentoring: Credit

After observing some products of team members, I realized that " Postcode" feature is not meaningful to help the auditor understand the data, so I decided to make a new feature, which is " City name" in order to make dashboard clear and guide other team member how to link the Postcode (client data) into " City name" (external data). Additionally, thanks to the mentor recommendation, I had a chance to learn and apply the high-level visualization technique is using Seaborn, then I guided my team member how to use Seaborn in order to visualize.



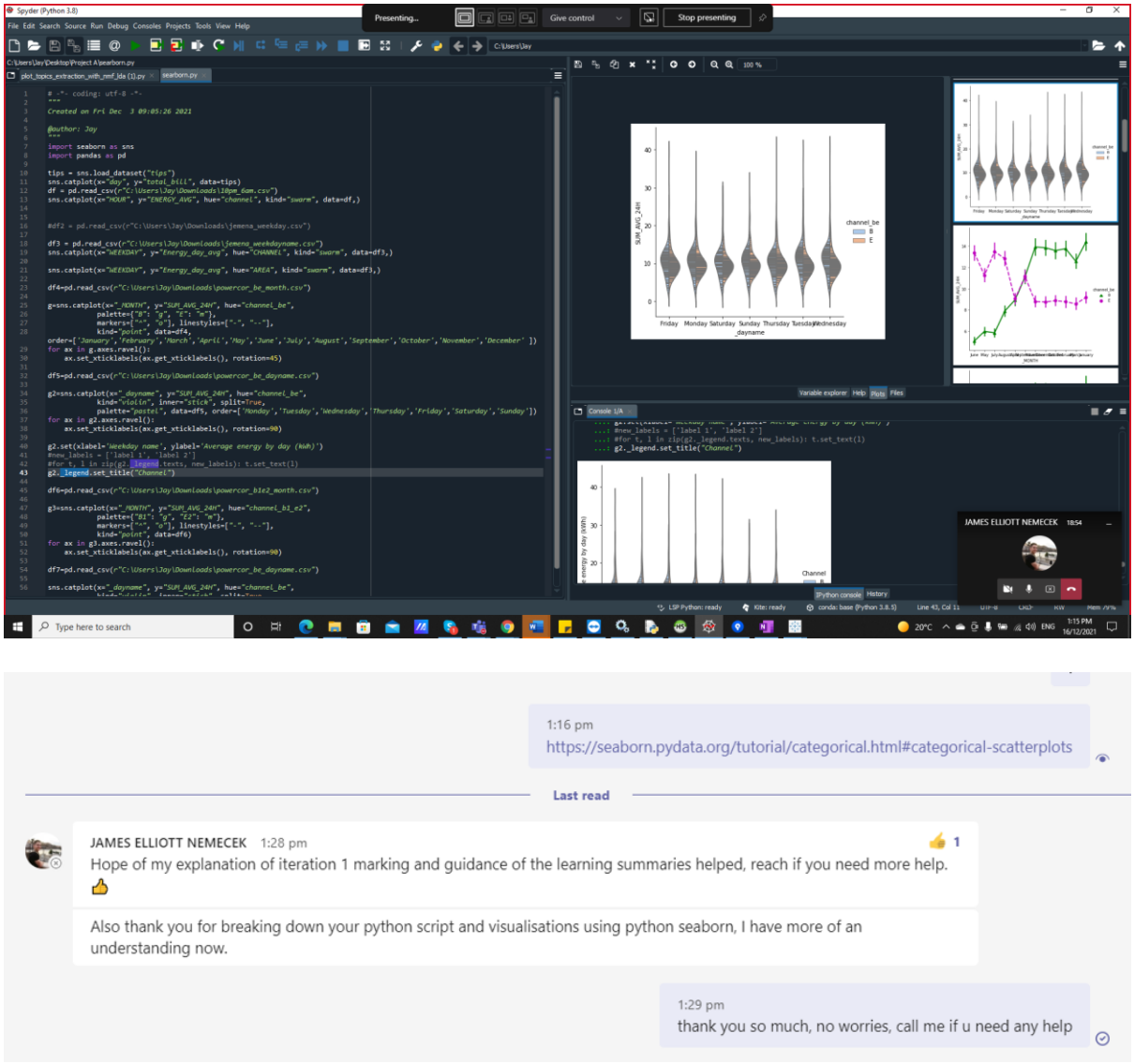


Figure 14. Mentoring

Part 2: Meeting of Unit Learning Outcomes (ULOs)

ULOI During this semester, I used my important experience to ensure the success of this project. I was an active and consistent participant. I have contributed my IT expertise (SQL, Python, Tableau) to data visualization of the project. It was a great role for teams participating in contributing to become successful IT project teams.

UL02 During this semester, I used my extensive experience to ensure the success of this project. I defined the scope of data visualization that I can apply my IT skills (Python, Tableau, SQL) to resolve the problem. I predicted the possible difficulties and risks of the project. Additionally, I breakdowned the project into smaller tasks and estimated the efforts (Scum method) and also scheduled the time and resources for each sub-task.

UL03 I have proved that I can handle all aspects of data visualization. Developing and responding to customer and project needs, and developing the additional skills needed to achieve them. I used the most recent tools and technique of data visualization (Tableau, Seaborn, Scrum)

UL04 I conducted the dashboards and the reports which involved my critical thinking in the handover document. Every my direction recommendation for the project are qualified by my team. My contributions this semester covered a variety of skills I developed during my research, including Python, SQL, Seaborn, Tableau and other project management skills.

UL05 Although I was located in mission of building data visualization, I realized that other stuffs as data modelling, data processing and data extraction are what I lacked. Therefore, I researched and practiced a lot these skills via different learning channels such as Cousera, Data Camp, Toward Data Science and the discussion with senior data analyst.I have grown as a person and am far more pleased with the development of the team than the results of the project.

Part 3: Lessons Learnt - Individual

The most important things I learnt:

In this unit, I learned about teamwork, time management, project management, problem solving, digital learning, and communication. These exceeded my expectations.

I feel I learnt these topics, concepts, and/or tools really well:

I have understood SQL, Python, MySQL server, Tableau, Trello and Seaborn really well after this unit

I found the following topics particularly challenging:

The biggest challenge for this unit is that having to work in a team and I didn't have any prior team work experience. I found it difficult to discuss problems with my teammates, split tasks, and plan for next activities. But I tried to solve these issues through setting up meetings. As a result, I was able to communicate with my teammates and work well.

I found the following aspects particularly interesting:

In my opinion, the most interesting thing is to use Trello. It can be used to plan most work effectively. It can also add due dates to cards to manage tasks. As a result, I can direct my work and assist myself to be efficient in finishing tasks on a timely manner.

I still need to work on the following areas:

Presentation skills are still among the most important skills for my study. So, I want to further enhance this skill, as well as focusing on getting better with leadership skills.

The things that helped me most were:

Online courses such as Coursera, TensorFlow, and W3school tremendously assisted me throughout the unit. By utilizing these resources, I could apply Tableau and Seaborn to visualizing the good plots and dashboards that can select the final products of this project.

If I did the project unit again, I would do the following things differently:

If there is a chance to redo the project unit, I would definitely try to take more chance to present in a better way. Additionally, I would also consult in more details with my instructor. Finally, there are more things that can be done for the teamwork to function better through communication, discussion and understanding.