

# Xtreme Weather Forecasting: W3

## Team update

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GOAL: Review Forecasting Model - Task 2

Name: Teklel/Kelly  
Date: Feb 12, 2023

# Agenda

- Review research papers
- Identify Relevant Models
- Model Performance Metrics
- Evaluation of models using the dataset

# TIMELINE OF THE PROJECT

WE ARE HERE

WEEK 0  
JAN 28, 2023

WEEK 1  
FEB 4, 2023

WEEK 2  
FEB 11, 2023

WEEK 4  
FEB 18, 2022

FINAL  
PRESENTATION  
Feb25, 2022



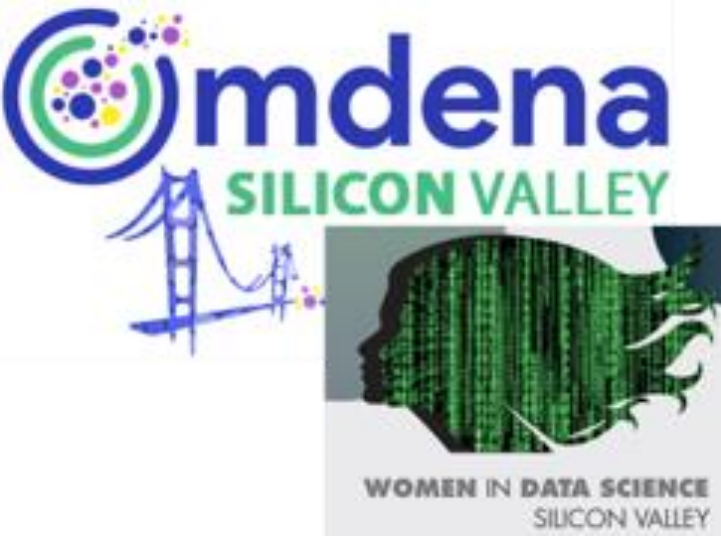
CELEBRATE!!

# WEEKLY PLAN

- Semi-self driven project.
- You can go as far as you want.
- Anyone can propose a solution
- Anyone can work on any task they want(don't re-invent). Leverage.

Week 1	Week 2	Week 3	Week 4
– Data Pre-processing  -Data Insights  - <b>Research</b>	– Exploratory Data Analysis (EDA)  - Plots  -Feature Engineering	-Model Development  -Model Evaluation  - Initiate deployment	-Submit to Datathon (Optional)  - Deployment  Build a Dashboard or App

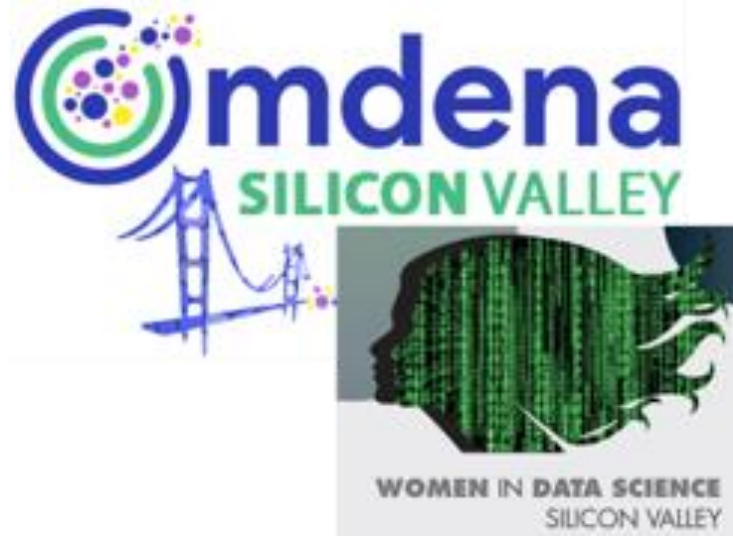
# Teams



<b>TASK #</b>	<b>TASK LEADER</b>
<b>TASK 0: Knowledge</b>	<b>Nancy (Final Report)</b>
<b>TASK 1: EDA</b>	<b>Vishu &amp; Pooja</b>
<b>TASK 1a: Feature Engineering</b>	<b>Pranjal</b>
<b>TASK 3: Model development</b>	<b>Tekle &amp; Kelly</b>



# Meeting Cadence



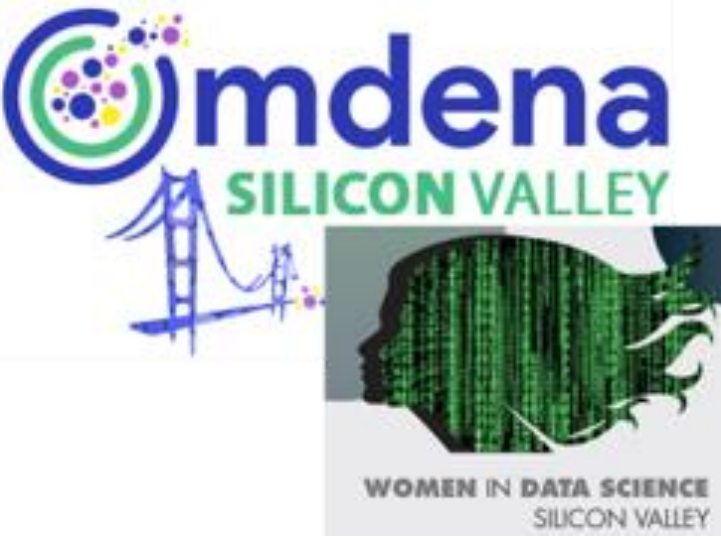
Meeting	Day and time
Weekly Team Meeting	Sunday 8 AM CST   16 UTC   9:30PM IST
TASK 0: Knowledge	TDB
TASK 1: EDA	Sunday 14 UTC
TASK 1A : FEATURE ENGINEERING	TBD
TASK 4: MODELING	Sunday 17 UTC
Learning & Education Series/Workshops	Every Saturday 16 UTC( based on volunteers)



# Task updates

# Task 0 - Knowledge

Team Leader:



## On-going tasks:

- Maintain Q&A

## Last week tasks/results:

- Working with task-1 for data collection and pre-processing.
- .....

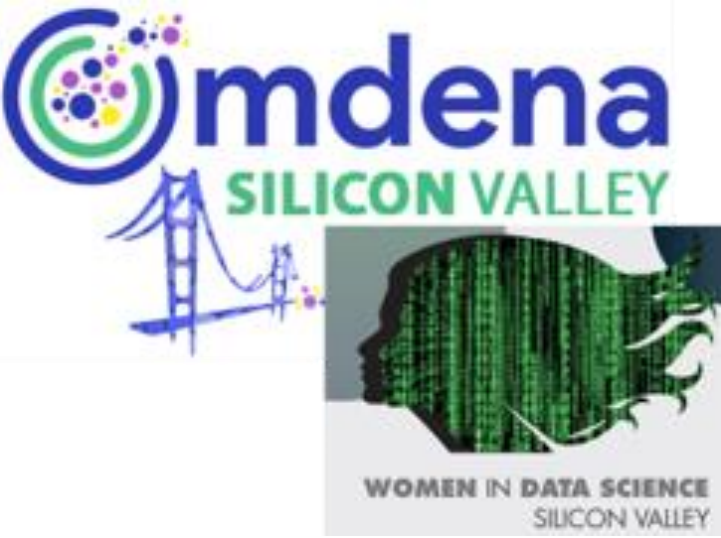
## Next steps for the upcoming week:

- Work with task-4/6 on ML model related research.
- ML pipelines learning session by Chinmay Kulkarni



# Task 1: EDA

Team Leader:



## On-going tasks:

- Reviewing the dataset

## Last week tasks/results:

- Identified all important columns
- .....

## Next steps for the upcoming week:

- creating a data dictionary( containing the meaning of each row in our dataset with help of domain experts)
- .....

## Task Reports

Individual Task report

notebooks are available under task-3-eda folder in github

# Task 1a – FEATURE ENGINEERING

Team Leader:

## On-going tasks:

- Check for outlier estimation, variable reduction(complete any missing data preprocessing tasks)
- Generalising facility\_type with respect to median of site\_eui and energy consumption both
- Imputation and merging of wind attribute to be done
- Dropping of columns in final Dataset to be done.
- Discussions on more features are going on. More visualisation is being performed to see if data can be more optimised.

## Last week tasks/results:

- 1.Started with checking correlation of features using correlation matrix.
- 2.Identified Null columns in the data and discussed various imputation methods
- 3.Identified that there is lot of ones in wind attribute mostly.
- 4.Identified columns to drop.
- 5.Grouped the months with respect to season for dimension reduction.
- 6.Worked on imputing days\_with\_fog.
- 7.Various attributes are discussed to asses its importance. For eg, Elevation.

## Next steps for the upcoming week:

- Would suggest that we start modelling and then come back to eda now after all missing values are filled.
- This would make it clear what more optimisations we can do to data. What correlation needs to be improved and to be worked on.



# Task 3 – Model Development

Team Leader:

## On-going tasks:

- Review research papers
- Identify Relevant Models
- Model Performance Metrics
- Evaluation of models using the dataset

## Last week tasks/results:

## Next steps for the upcoming week:

- Continue with Evaluation of Models

**Report:**

<Link>