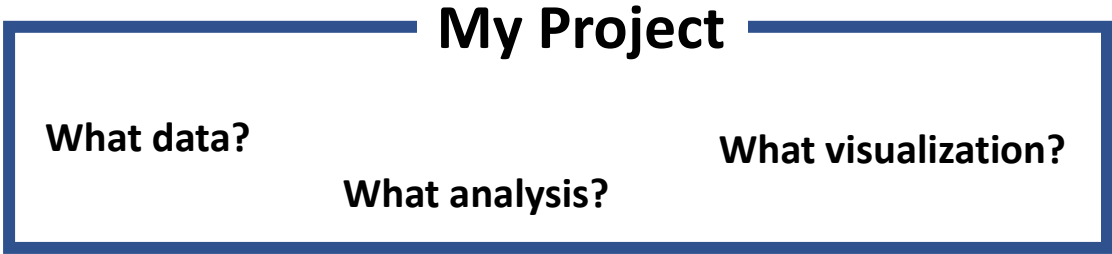


CSE 5520 – Data Visualization and Communication

Schedule for the rest of semester

Categorical variable
Discrete variable
Continuous variable



PREDICTION
CAUSALITY
ASSOCIATION

Bayesian inference

Basic
Monte Carlo
MCMC
Bayesian MCMC



Biology, Engineering, Business, NBA/NFL/MLB



NLP Visualization

Sentiment analysis



Sampling

Monte Carlo

Kernel Density Estimate



Discrete to continuous

Classification

Information Gain
KNN
Gaussian mixed model



Clustering

Hierarchical
K-means



Network Analysis

Directional
Non-directional



network

Probability Distribution

Bernoulli distribution
Poisson distribution
Gamma distribution
Beta distribution



Histogram
Boxplot
Violinplot

Hypothesis Testing

t- Test
p-value
ROC
FDR



χ^2 Test

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Correlation Analysis

Linear regression
Pearson correlation
Non-linear regression



Scatter plot
Regression line
Correlation matrix
Heatmap

Data Visualization Road Map

CSE 5520 – Data Visualization and Communication (Planned)



Grading Policy

Grading will be based on student's performance in five areas: participation (5%), homework (25%), quiz (15%), project (15%), in-class presentation (20%) and term paper (20%).

Schedule (14 weeks)

9/1 (Wed)	Fall semester begins.
10/20 (Wed)	Project proposal abstract due.
10/27 (Wed)	Project proposal begins*.
11/21-11/27	Thanksgiving Recess
12/1 (Wed)	Student Presentation
12/8 (Wed)	Student Presentation; Class ends.
12/19 (Sun)	Final exam ends; Term paper due.

* Specific date and time may change and the student presentation ordering will be determined FCFS. Team size should be 2. Term paper should be solo.

Sept

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Oct

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Nov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Dec

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

CSE 5520 – Data Visualization and Communication (Revised)



Schedule (14 weeks)

11/17 (Wed)	R & ggplot + Dash; NLP visualization
11/21-11/27	Thanksgiving Recess
12/1 (Wed)	Bayesian MCMC; Quiz
12/8 (Wed)	Final Presentation I
12/13 (Mon)	Final Presentation II
12/19 (Sun)	Term paper due.

Note: 12/13 (Mon) will be 6:00 – 8:00 pm using the university scheduled final exam period.

Sept

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Oct

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Nov

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Dec

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Please sign up for Final Presentation Slots, either 12/8 (Wed) 5:00-7:30 or 12/13 (Mon) 6:00 – 8:00