



CENTER FOR SMART
STREET
SCAPES

Research Experience for Teachers (RET)

2024 Lesson Plans



Sharon Bottu
Brooklyn High School for
Law and Technology



Lesson Plan

CORRELATION COEFFICIENT BETWEEN SAT READING AND MATH SCORES

Class Type: Mathematics

Grade: 6-12

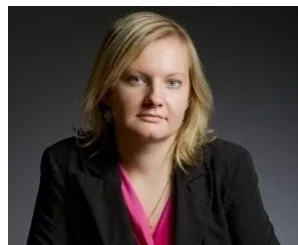
Overarching Focus of Lesson: How do we analyze data and construct cumulative frequency tables using traffic volume count?

Objectives:

- Teaching statistical methods using traffic volume count data
- Students will use the data to graph the traffic volume count using a cumulative frequency graph.



Joel Bianchi
Energy Tech High School



Alex Chukhareva
Energy Tech High School



Lesson Plan

TRAINING AI NEURAL NETWORKS

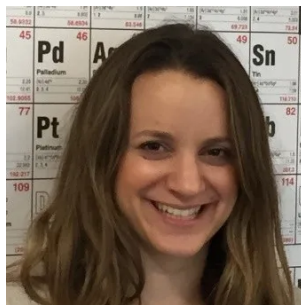
Class Type: Engineering Foundations

Grade: 9-12

Overarching Focus of Lesson: Learn how neural networks are structured and use ai models to predict patterns

Objectives:

- Developing an understanding of key terms in artificial intelligence and machine learning.
- Explaining how neural networks process information.
- Setup an AI model in a Python notebook
- Train an AI model with custom data
- Research AI datasets online to train personalized AI model



*Stacey Goldstein
Midwood High School*



Lesson Plan

COMMON HOUSEHOLD OBJECT DETECTION

Class Type: Senior Science Research

Grade: 12

Overarching Focus of Lesson: How well can image recognition models identify everyday household items from all over the world?

Objectives:

- AI Models are only as good as their training model
- Some models are better at detecting certain objects more than others



*Parmanand Mohanlall
Brooklyn Latin School*



Lesson Plan

BIAS DATA ANALYSIS ON AI IMAGE DETECTION

Class Type: Computer Science

Grade: 11-12

Overarching Focus of Lesson: Artificial Intelligence Unit / Bias
Data Analysis on AI Image Detection

Objectives:

- AI Models may be biased when generating a description or labeling an image from a CCTV footage in a positive or negative manner depending on the situation.
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Brooke Williams
Arthur Tappan PS46



Lesson Plan

BIKE NYC

Class Type: Mathematics

Grade: 7

Overarching Focus of Lesson: Students will make connections between their collective experience in the NYC Bike program, their class trip to the Bicycle Center, and what they have learned about interpreting data. Students will be able to access the tasks using prior knowledge with finding the measures of center, constructing data displays and their experience with learning how to ride bicycles. The data provided to students will help them form inferences about the population who are riding bikes in their school community.

Objectives:

- SWBAT Determine the measures of center for a given data set.
- SWBAT Construct a box plot or dot plot to display the provided data set.
- SWBAT Create a final presentation of the data enhanced with the use of their self created video vlogs or pictures from their experience throughout the bicycle program.

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