

# CS437: Internet of Things

## Lab 4

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**Late days used:** 3

**GitLab repo:** <https://gitlab.com/nsheikh2/cs437-lab4>

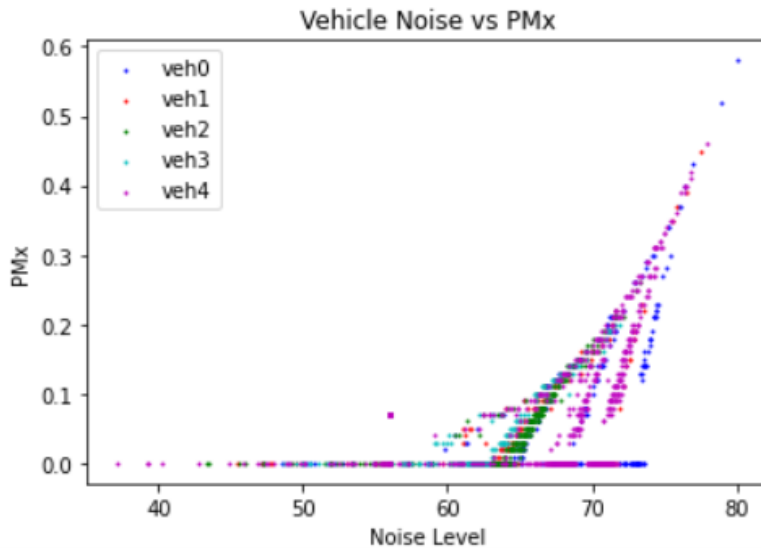
**Demo video:**

<https://drive.google.com/file/d/15mp97QJZbY8TCzxUB-i1r-C79-plm6bX/view?usp=sharing>

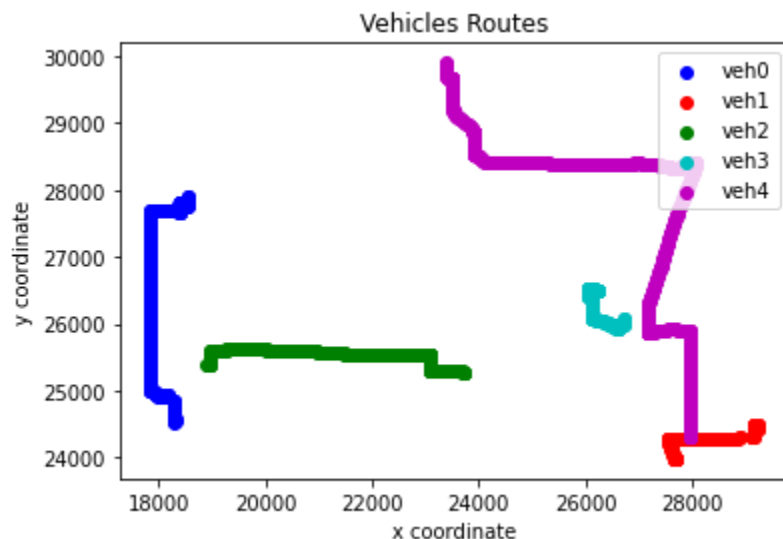
### Contributions

Group Member	Contribution
Nishant Sheikh	Building the Cloud (things), Data Inference (basicDiscovery), Analytics Visualization
Molly Yang	Building the Cloud (greengrass, lambda), Data Inference (configurations, lambda)

## Visualizations



This graph shows a sharp increase in the particulate matter in the exhaust is associated with an increase in noise level. This matches expectations to some extent - when a vehicle is louder, it may be working harder (moving faster, hauling a load, etc.) But beyond this, a certain noise level may indicate that the engine is running poorly (or out of its normal envelope), and therefore producing excess particulate matter in its exhaust.



This graph shows the individual vehicles' routes by plotting their x and y coordinates. This data allows us to understand the paths that our vehicles have taken, and contextualize our other data with it. For example, if veh4 traveled a longer distance in the same timeframe, we could see

whether it traveled faster uniformly, or sprinted for certain portions of the run. We would be able to assess the impact of various driving styles on factors like emissions and noise level.