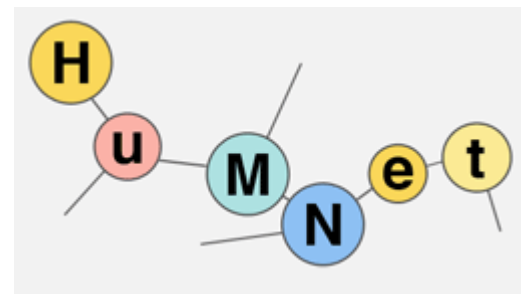


FINDING PATTERNS IN TAXI DEMAND

Yingxiang Yang, Serdar Colak, Jameson Toole,
Suma Desu, Lauren Alexander

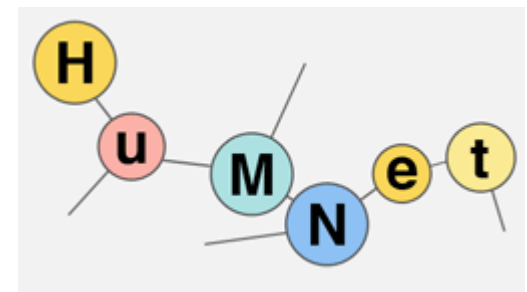


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Finding Patterns in Taxi Demand

- Spatial Pattern
 - Correlation between different locations
- Temporal Pattern
 - Demand fluctuation with time

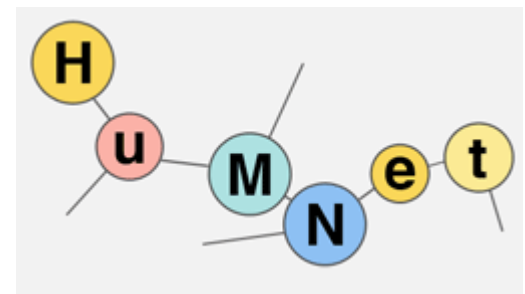


Finding Patterns in Taxi Demand

- Dataset: Taxi pickup data
 - Average number of trips during each hour of the week at each location
 - Pickup numbers two hours before/after the time period at the given location
 - Pickup numbers in the neighbor area during the time period at the given location

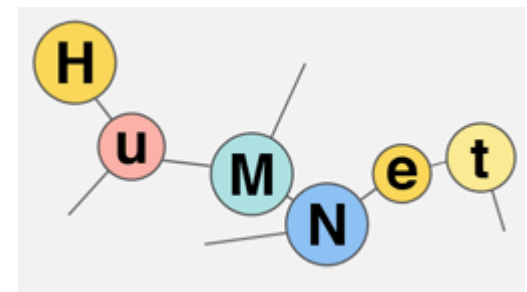


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Finding Patterns in Taxi Demand

- Dataset: Taxi drop off data
 - Similar features
 - Considering the time shift between the pickup and drop off

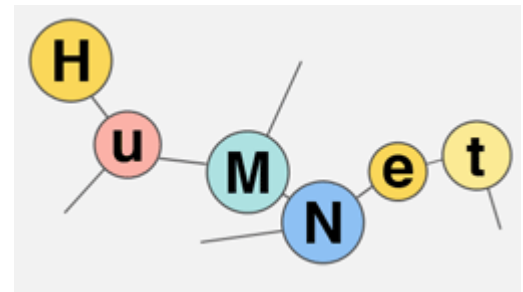


Finding Patterns in Taxi Demand

- Dataset: MBTA subway data
 - Flows from each subway station
 - Weight them by their distances to the target location



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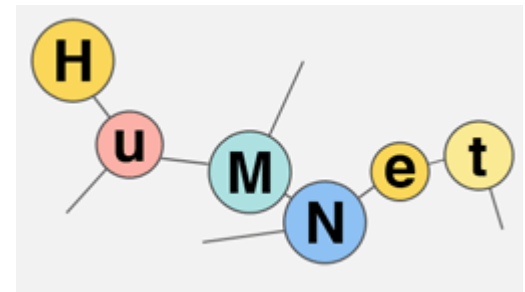


Finding Patterns in Taxi Demand

- Dataset: Weather data
 - Amount of rain fall



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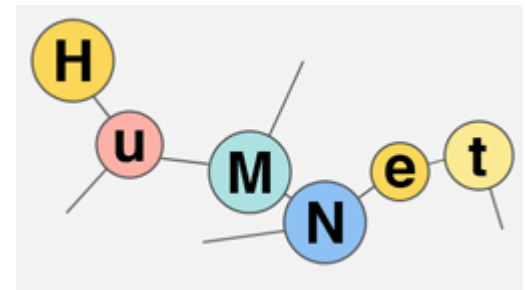


Finding Patterns in Taxi Demand

- Algorithm
 - Neural Networks
 - Ridge Regression



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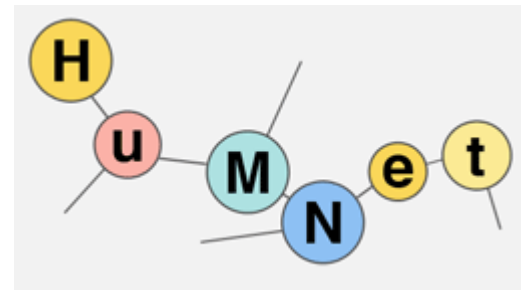


Finding Patterns in Taxi Demand

- Outliers
 - Convention centers
 - BOA pavilion



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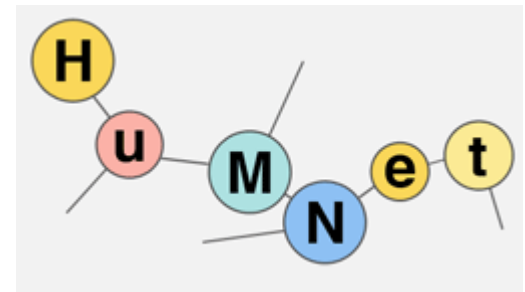


Finding Patterns in Taxi Demand

- Finding
 - Average demand
 - Fluctuation of demand
 - Large events



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THANK YOU!
