Characterizing and Comparing Cellular Network Traffic in French Cities
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Characterizing and Comparing Cellular Network Traffic in French Cities

Goals:
- Characterize the spatial and time diversity of the traffic
- Exploit the diversity to place Network Functions

Total Traffic
- Daily/weekly patterns
  - Friday is different from other days
  - Always a peak in the early afternoon
  - Smaller peaks at 8 and 10 p.m.
- Midday peak at the same time in all cities

Clustering IRIS Zones
- Similar traffic patterns?
  - Possible to detect between 4 and 7 clusters in each city
  - Always a few exceptions
- IRIS zones are a good candidate for analyzing this dataset
  - Carefully defined to reflect the underlying characteristics
  - Updated every year
  - Detailed demographic estimates (by age, gender)

IRIS Zones
- Defined by the French National Statistical Agency (INSEE)
  - For towns with more than 10,000 people
  - Between 1,800 and 5,000 inhabitants in each zone
  - Different areas and population
- Different total traffic in each zone (but lower dispersion than the area)

Applications’ traffic
- Percentage of traffic generated by each application similar for all cities
- Variation among IRIS zones different in each city

Violin plots of the percentage of traffic in each IRIS zone for selected applications and cities