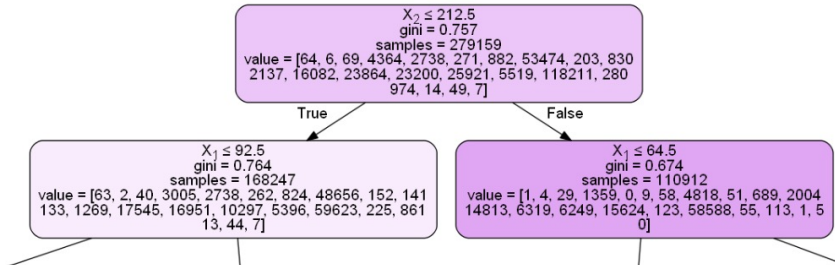


# Machine Learning Model

*Data Forecasting*

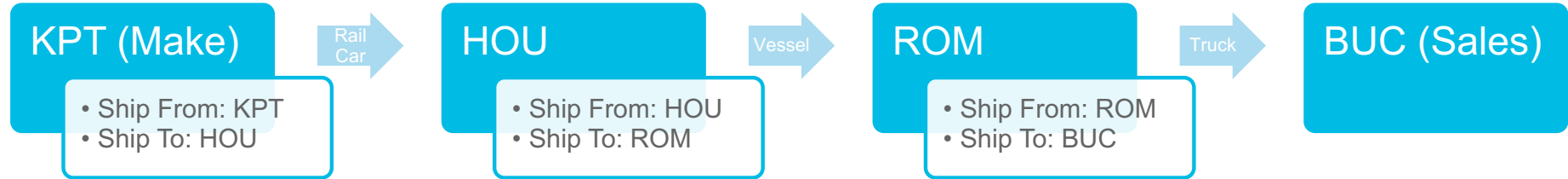
# A Typical Flow Forecast

Decision Tree Classifier



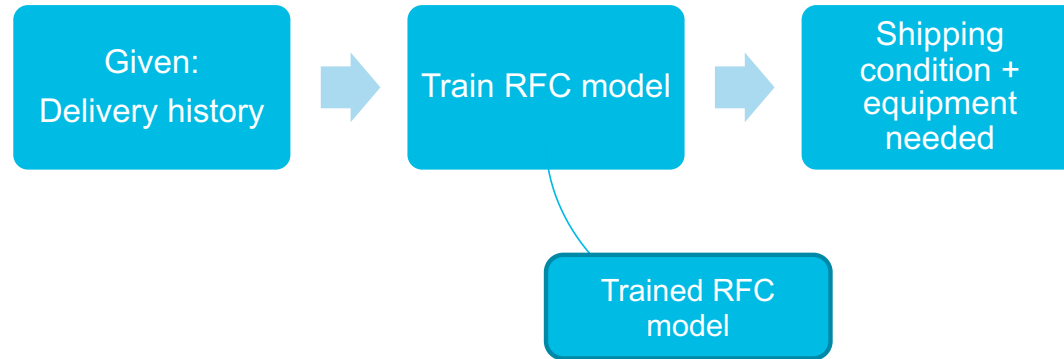
## Forecast Predictor:

1. Calculates DRP (Distributions Requirement Planning)
2. Derives shipping condition and equipment needed to ship to sales



# Predicting using a Flow Forecast

Training RFC



Applying RFC



# Equipment Forecasting

- BAxTR – Basic ApproXimator for Transportation Resources
- Used delivery history data to train machine learning models
  - Out of 3 approaches, highest accuracy is 95% by using Random Forest Classifier

```
127 dump(rfc_low_lvl, 'rfc_low_lvl_final.joblib')
128 dump(dtc_low_lvl, 'dtc_low_lvl_final.joblib')
129 dump(ml.le_y_scnd, 'ShipCond_encoder.joblib')
130 #rfc_low_lvl_repo = load('rfc_low_lvl.joblib')
131 #dtc_low_lvl_repo = load('dtc_low_lvl.joblib')
132
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL**


```
C:\Repos\BAxTR>C:/Users/U778411/AppData/Local/Programs/Python/Python37/python.exe c:/Repos/BAxTR/baxtr_predictive_main.py
C:\Users\U778411\AppData\Local\Programs\Python\Python37\lib\site-packages\sklearn\externals\six.py:31: DeprecationWarning:
e official version of six (https://pypi.org/project/six/).
"(https://pypi.org/project/six/).", DeprecationWarning)
C:\Users\U778411\AppData\Local\Programs\Python\Python37\lib\site-packages\sklearn\ensemble\forest.py:245: FutureWarning: Th
"10 in version 0.20 to 100 in 0.22.", FutureWarning)

Final:
Accuracy for RFC: 95.58 %
Accuracy for DTC: 95.57 %
C:\Users\U778411\AppData\Local\Programs\Python\Python37\lib\site-packages\sklearn\ensemble\forest.py:245: FutureWarning: Th
"10 in version 0.20 to 100 in 0.22.", FutureWarning)

v1:
Accuracy for RFC: 87.48 %
Accuracy for DTC: 87.48 %
C:\Users\U778411\AppData\Local\Programs\Python\Python37\lib\site-packages\sklearn\ensemble\forest.py:245: FutureWarning: Th
"10 in version 0.20 to 100 in 0.22.", FutureWarning)

v2:
Accuracy for RFC: 88.51 %
Accuracy for DTC: 88.52 %

C:\Repos\BAxTR>
```



# Other notable term Projects

- Learning SQL for querying data
- Machine learning in Python
- Service-oriented IT

