Framing a machine learning problem

Pick **two** use cases from the slide content presented below (e.g. aircraft scheduling, credit worthiness evaluation) and answer the questions on the next page for each use case.

Cloud machine learning use cases

Manufacturing

- Predictive maintenance or condition monitoring
- Warranty reserve estimation
- Propensity to buy
- Demand forecasting
- Process optimization
- Telematics

Retail

- Predictive inventory planning
- Recommendation engines
- Upsell and cross-channel marketing
- Market segmentation and targeting
- Customer ROI and lifetime value

Healthcare and Life Sciences

- Alerts and diagnostics from real-time patient data
- Disease identification and risk satisfaction
- Patient triage optimization
- Proactive health management
- Healthcare provider sentiment analysis

Cloud machine learning use cases (Continued)

Travel and Hospitality

- Aircraft scheduling
- Dynamic pricing
- Social media – consumer feedback and interaction analysis
- Customer complaint resolution
- Traffic patterns and congestion management

Financial Services

- Risk analytics and regulation
- Customer segmentation
- Cross-selling and up-selling
- Sales and marketing campaign management
- Credit worthiness evaluation

Energy, Feedstock and Utilities

- Power usage analytics
- Seismic data processing
- Carbon emissions and trading
- Customer-specific pricing
- Smart grid management
- Energy demand and supply optimization

Use Case 1: _____

If the use case was an **ML problem**....

1) What is being predicted?

2) What data is needed?

Now imagine the ML problem is a question of **software**:

3) What is the API for the problem during prediction?

4) Who will use this service? How are they doing it today?

Lastly, cast it in the framework of a **data problem**. What are some key actions to collect, analyze, predict, and react to the data/predictions (different input features might require different actions)

5) What data are we analyzing?

6) What data are we predicting?

7) What data are we reacting to?

Use Case 2: _____

If the use case was an **ML problem**....

1) What is being predicted?

2) What data is needed?

Now imagine the ML problem is a question of **software**:

3) What is the API for the problem during prediction?

4) Who will use this service? How are they doing it today?

Lastly, cast it in the framework of a **data problem**. What are some key actions to collect, analyze, predict, and react to the data/predictions (different input features might require different actions)

5) What data are we analyzing?

6) What data are we predicting?

7) What data are we reacting to?