

What is Anomaly Detection?



What is **Anomaly Detection**?

In **data analysis**,

What is **Anomaly Detection**?

In data analysis, **anomaly detection**

What is **Anomaly Detection**?

In **data analysis**, **anomaly detection** is the **identification of rare** items, events or observations

What is **Anomaly Detection**?

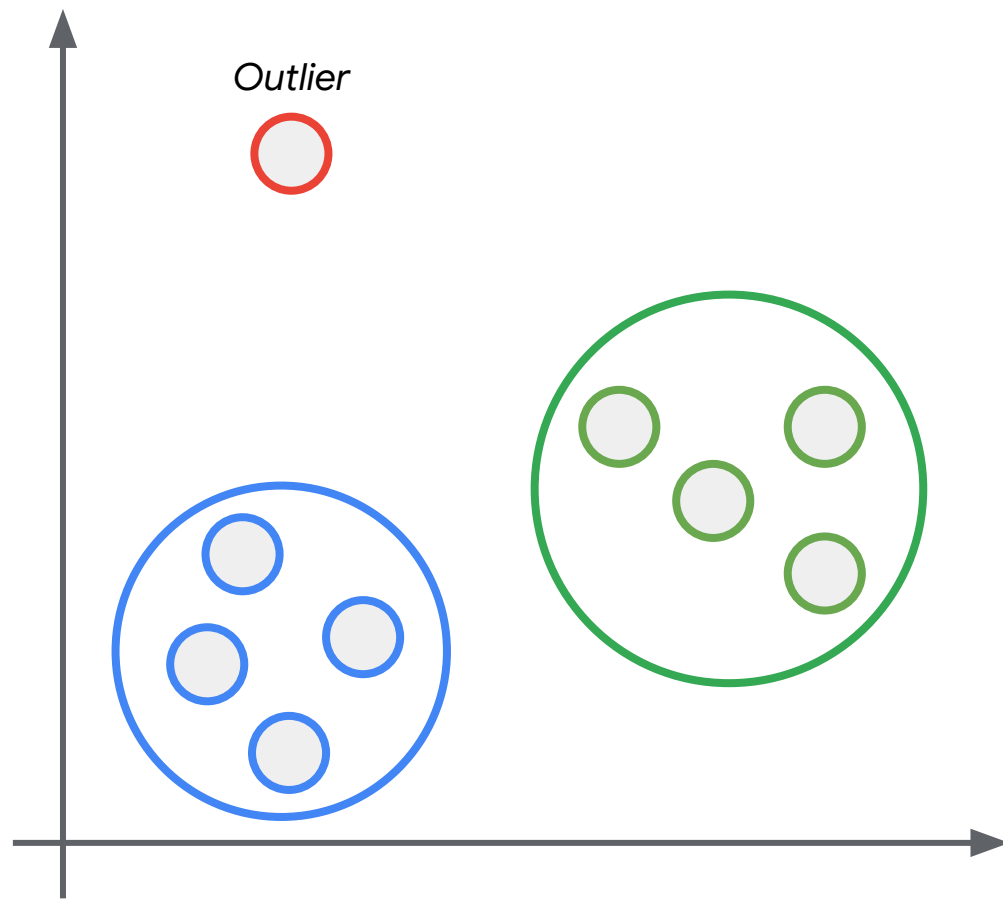
In **data analysis**, **anomaly detection** is the **identification of rare** items, events or observations which **raise suspicions**

What is **Anomaly Detection**?

In **data analysis**, **anomaly detection** is the **identification of rare** items, events or observations which **raise suspicions** because they **differing significantly**

What is **Anomaly Detection**?

In **data analysis**, **anomaly detection** is the **identification of rare** items, events or observations which **raise suspicions** because they **differing significantly** from the **majority of the data**.



Multiple **Application Domains**



Health



Industry



Security

Multiple Sensors



Health

ECG Sensor



Industry

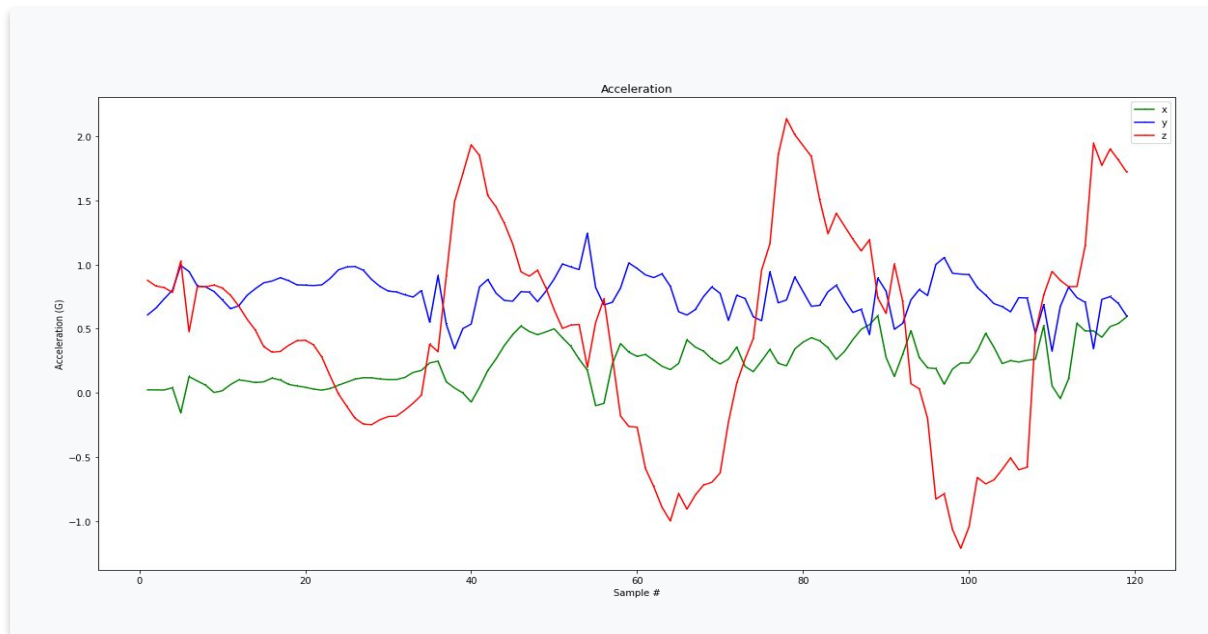
Accelerometer



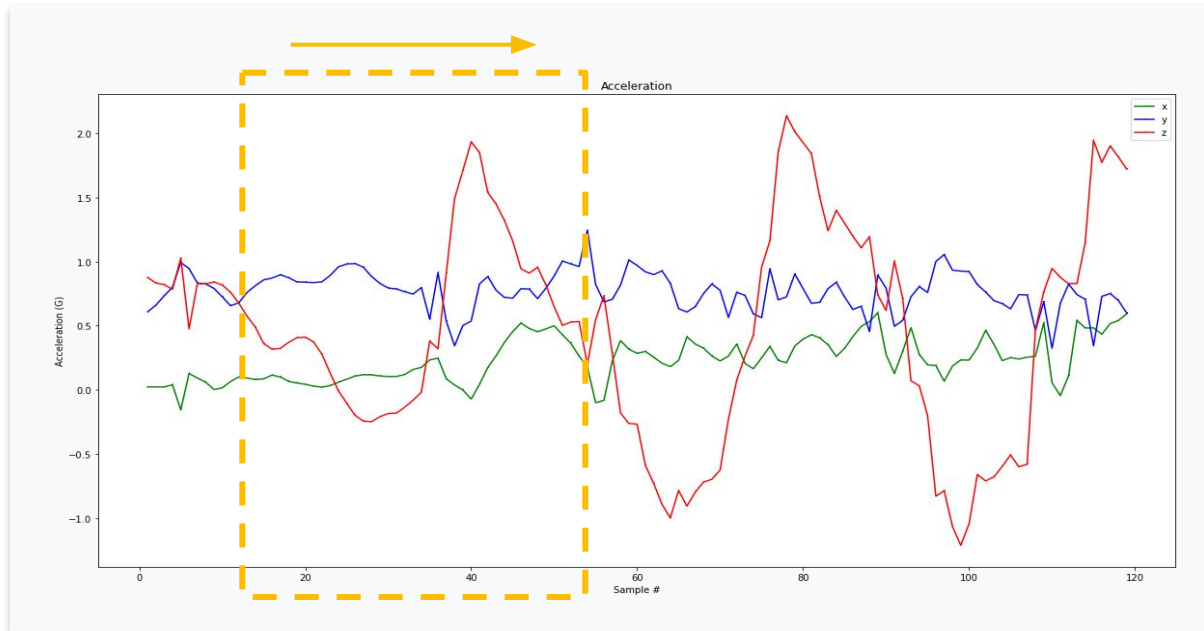
Security

IR Motion Sensor

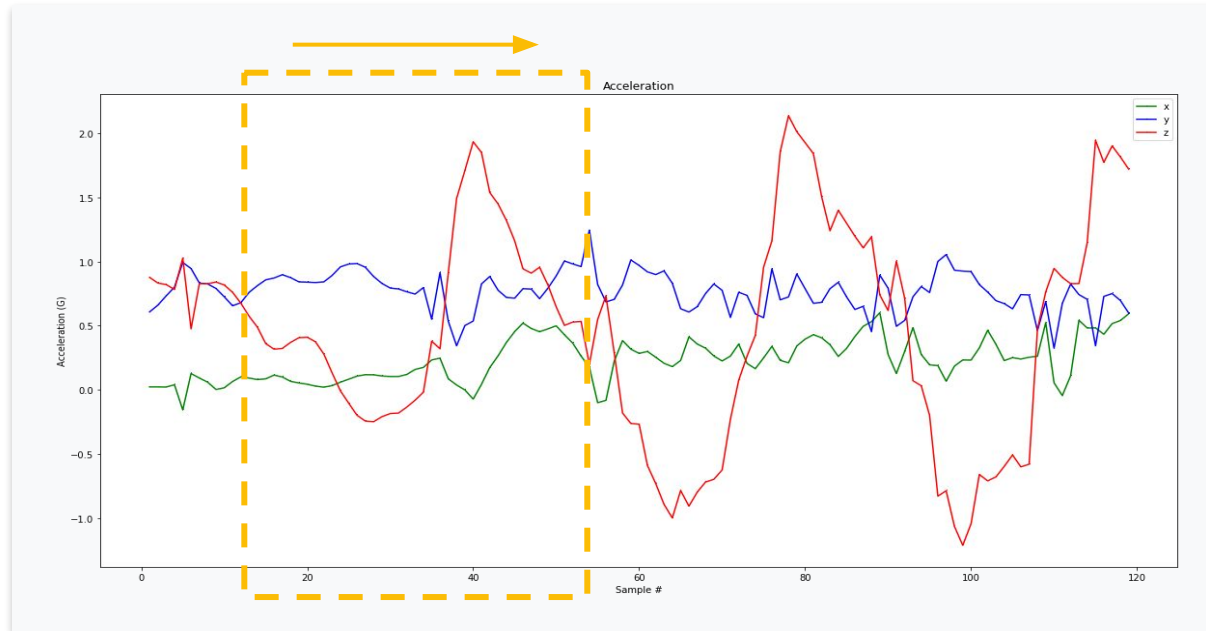
Multiple Sensors



Multiple Sensors



Multiple Sensors

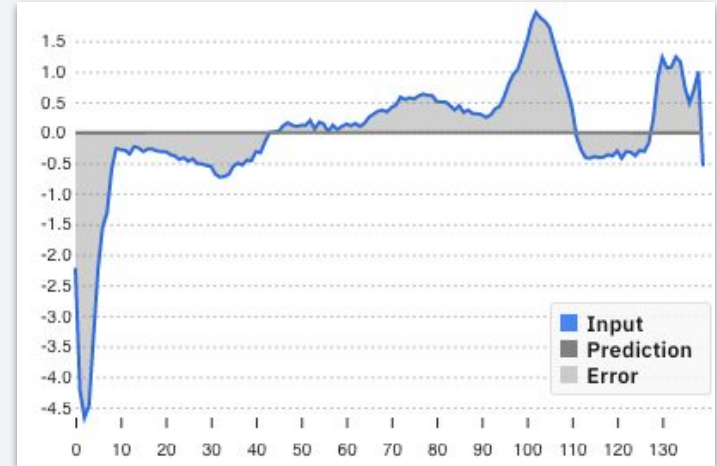


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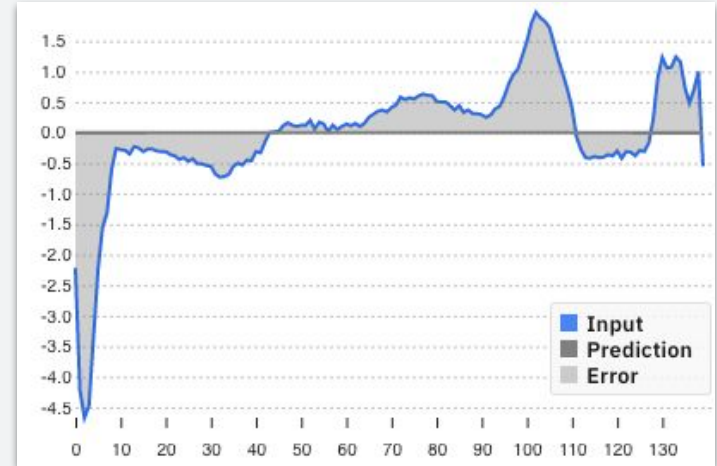
Three Fundamental Aspects of AD

1. Input



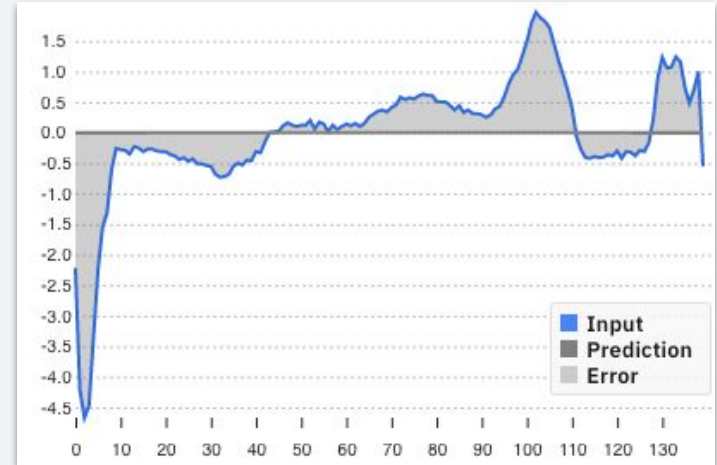
Three Fundamental Aspects of AD

1. Input
2. Prediction

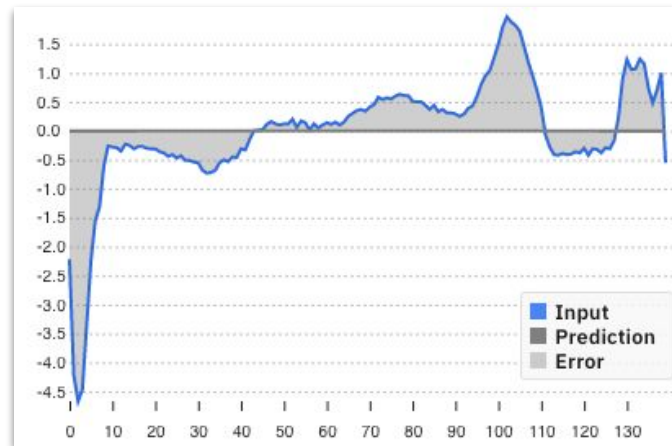


Three Fundamental Aspects of AD

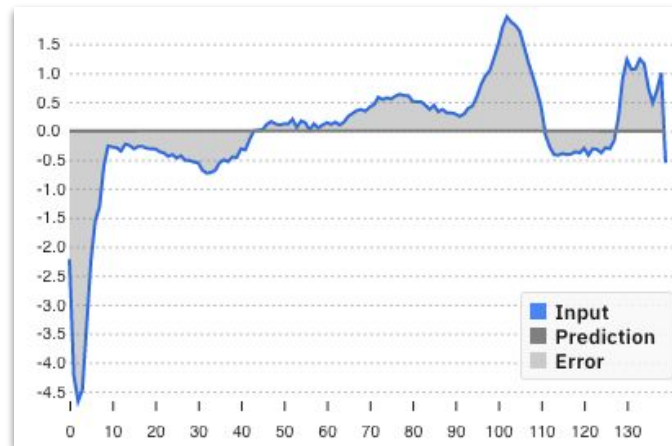
1. Input
2. Prediction
3. Error



Poor Prediction



Poor Prediction



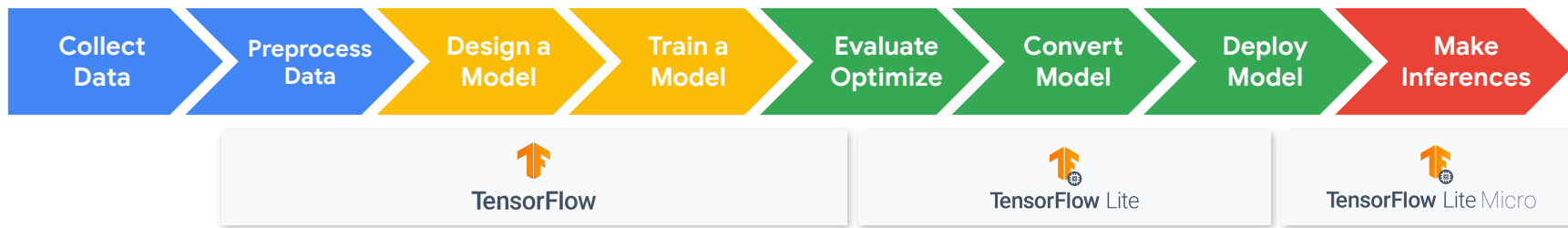
Good Prediction



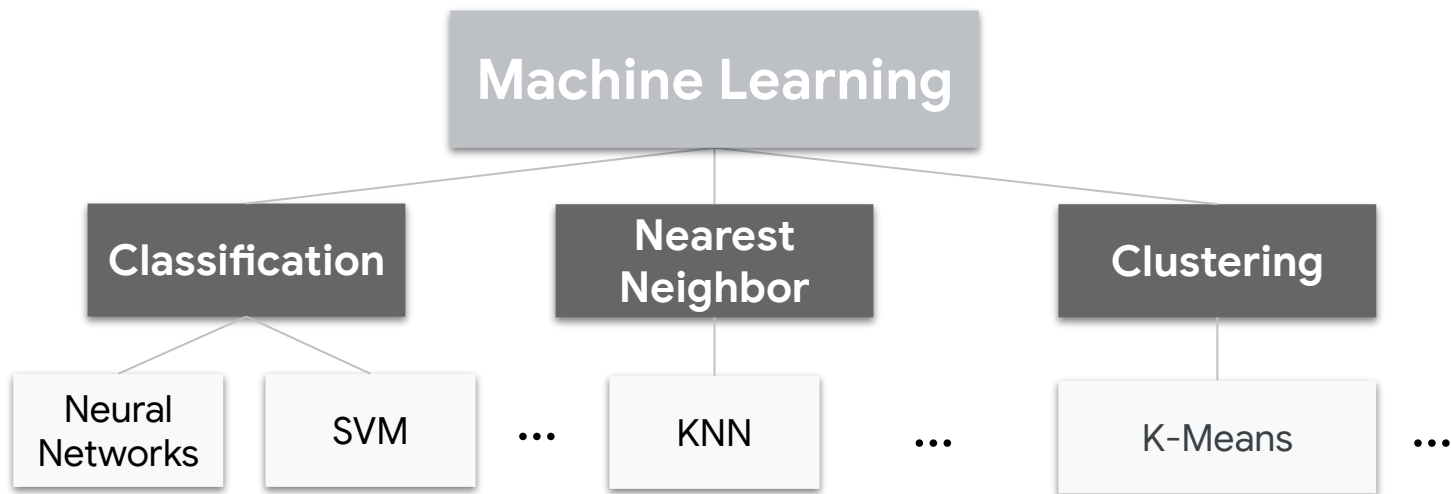
Why **TinyML**?



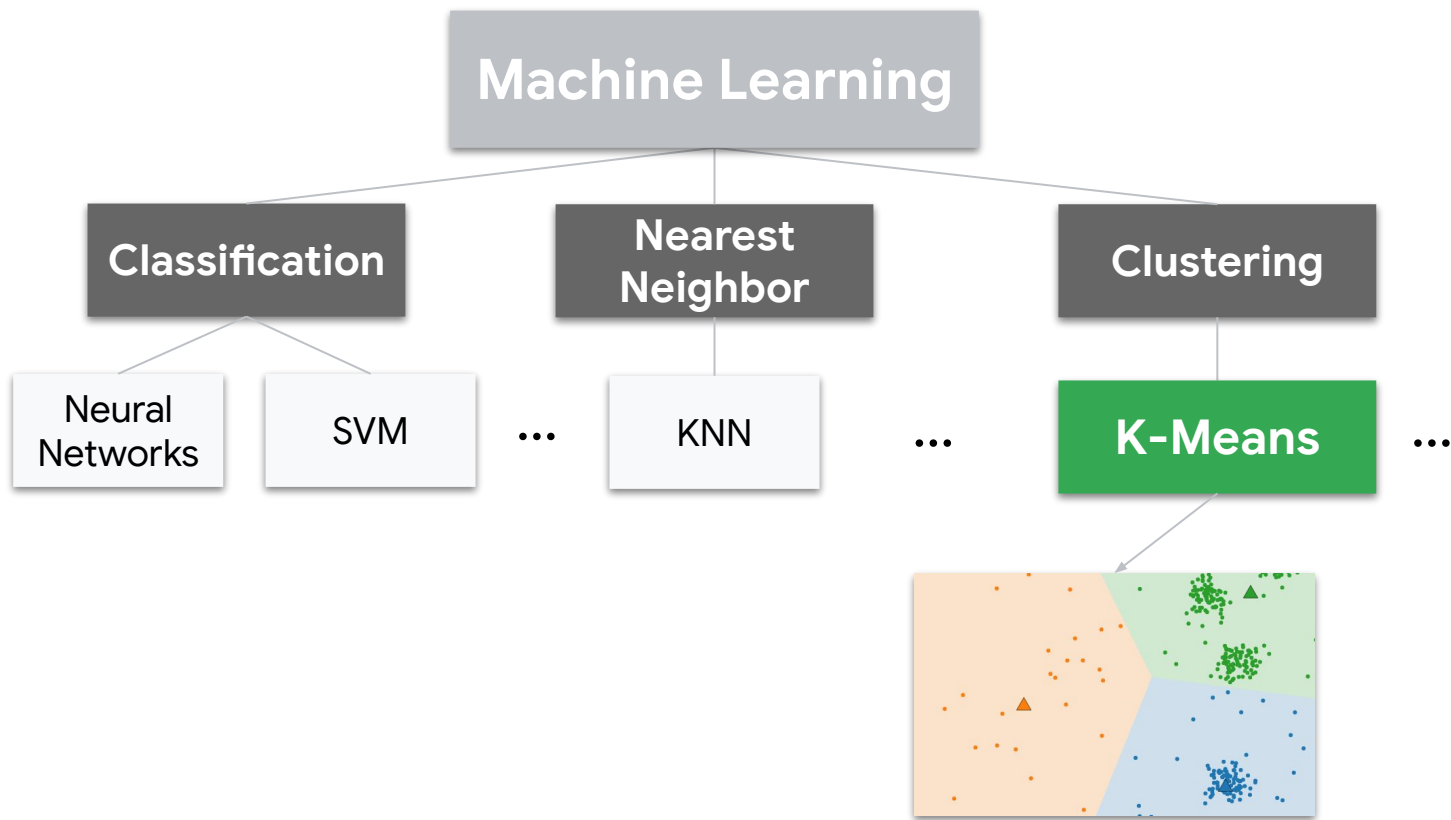
Machine Learning



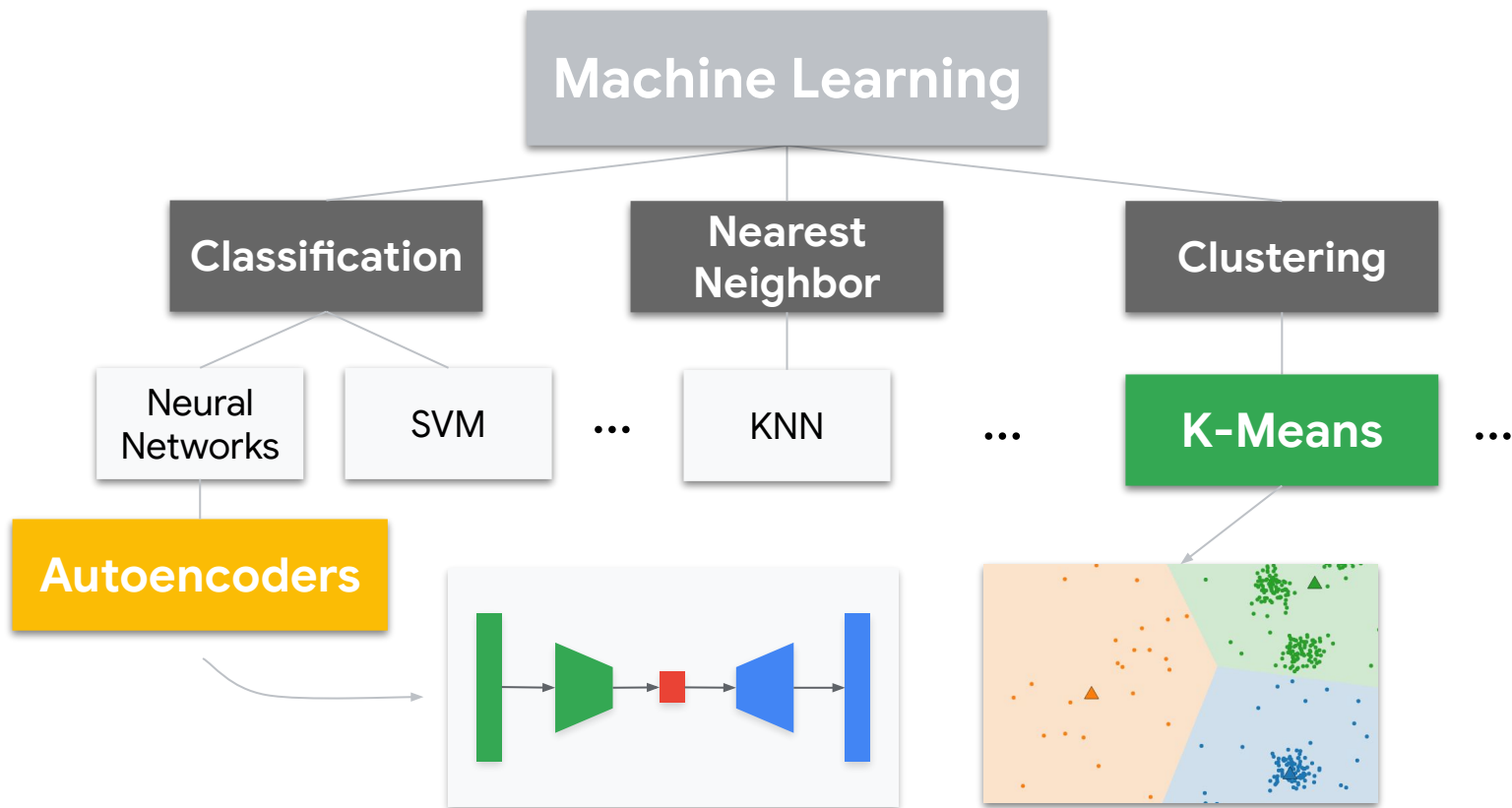
It's **not** all deep learning



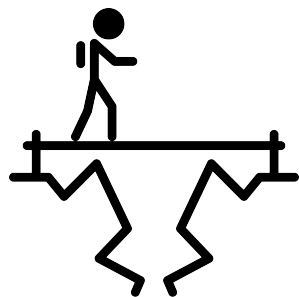
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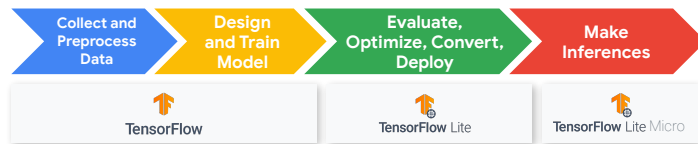
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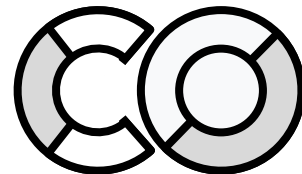
What are we going to learn?



Challenges with an
Anomaly Detection
Application



Anomaly Detection
ML Pipeline



Training, Testing
in Colab