

# Bringing Analytics to the Edge & Beyond

Prof. Dr. Ho Chin Kuan  
[ckho@mmu.edu.my](mailto:ckho@mmu.edu.my)

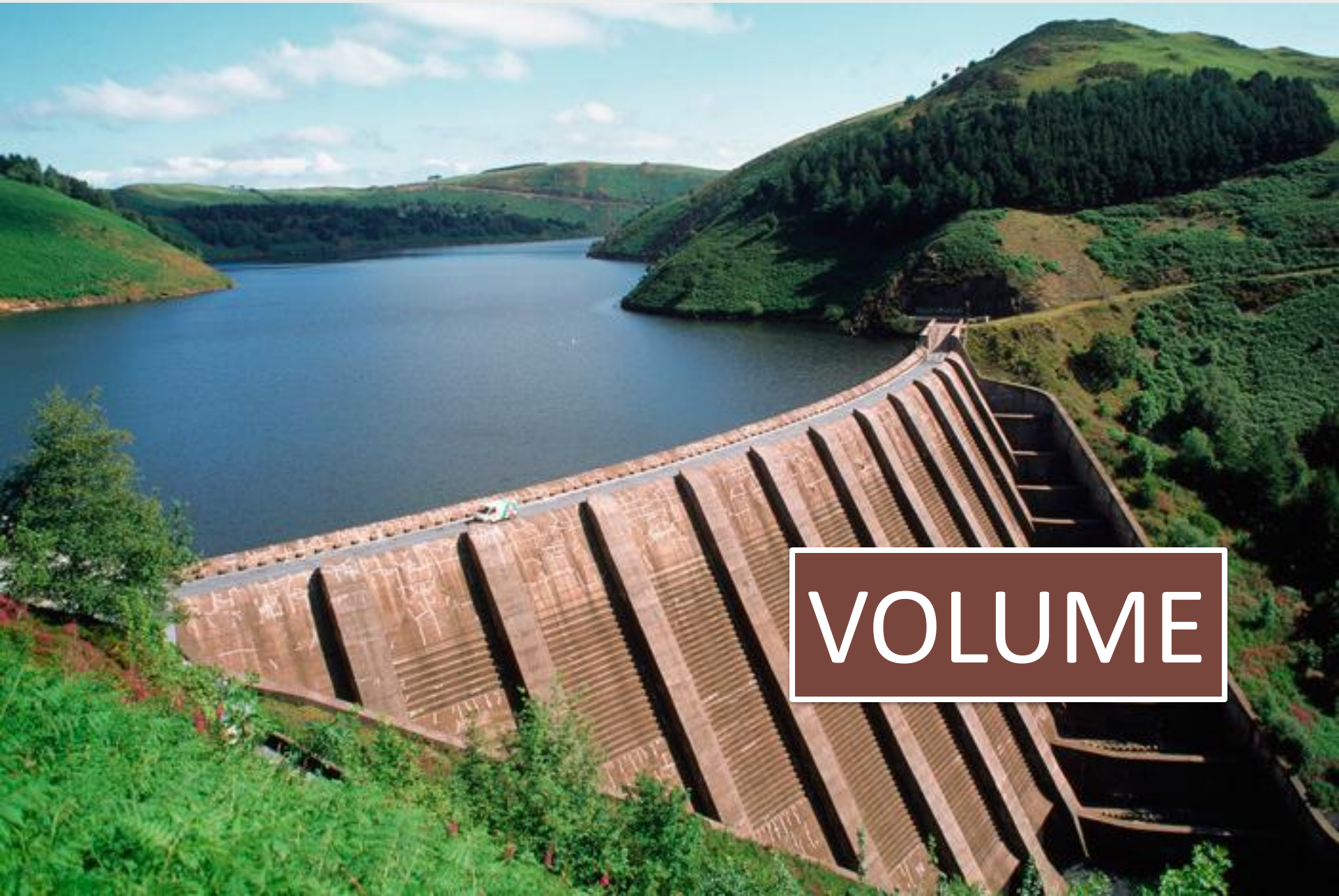
Chairman  
Data Science Institute

Dean  
Faculty of Computing and Informatics

Multimedia University



# BIG DATA: The 3Vs



**VOLUME**

# BIG DATA: THE 3Vs



**VELOCITY**

# BIG DATA: THE 3Vs

A photograph of five water jets of different heights and shapes, each emerging from a brown nozzle. The jets are set against a green background and are surrounded by splashing water. A black box with white text is overlaid on the center of the image.

**VARIETY**

A hand is shown from the bottom left, cupping a globe. The globe is covered in binary code (0s and 1s) and has the letters 'IIoT' overlaid on it. Three horizontal text boxes are positioned across the globe, each containing a characteristic of IIoT. The background is a solid blue color.

**Very High Data Rate**

**Long Battery Life**

**Low Latency**

# INDUSTRY



4.0

Cyber-Physical Systems

IoT

Cloud Computing

Cognitive Computing

# From Devices to the Data Centre

Why is data more valuable at the edge?

Applications and **analytics** can be hosted in the edge nodes.

Smart City



Smart Devices



Edge Analytics



Analytics in Cloud/Lake



Cloud Data Centre



Smart Cars

#12920613

# Why move analytics to the edge?



Latency



Threats



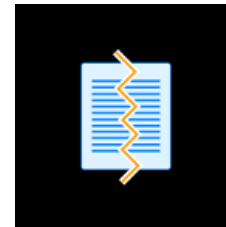
Bandwidth



Duplication



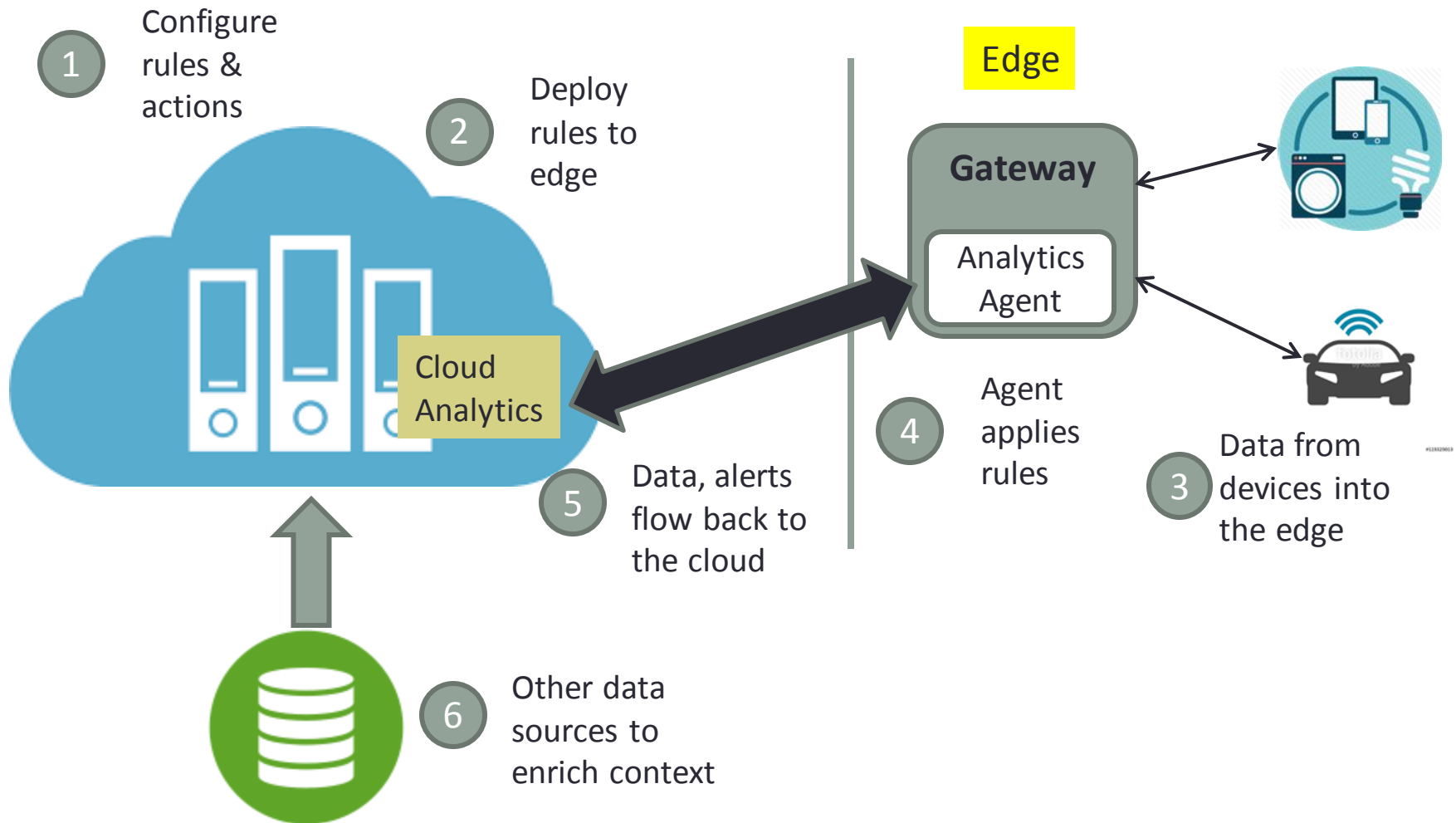
Cost



Corruption



# An Architecture for Edge Analytics

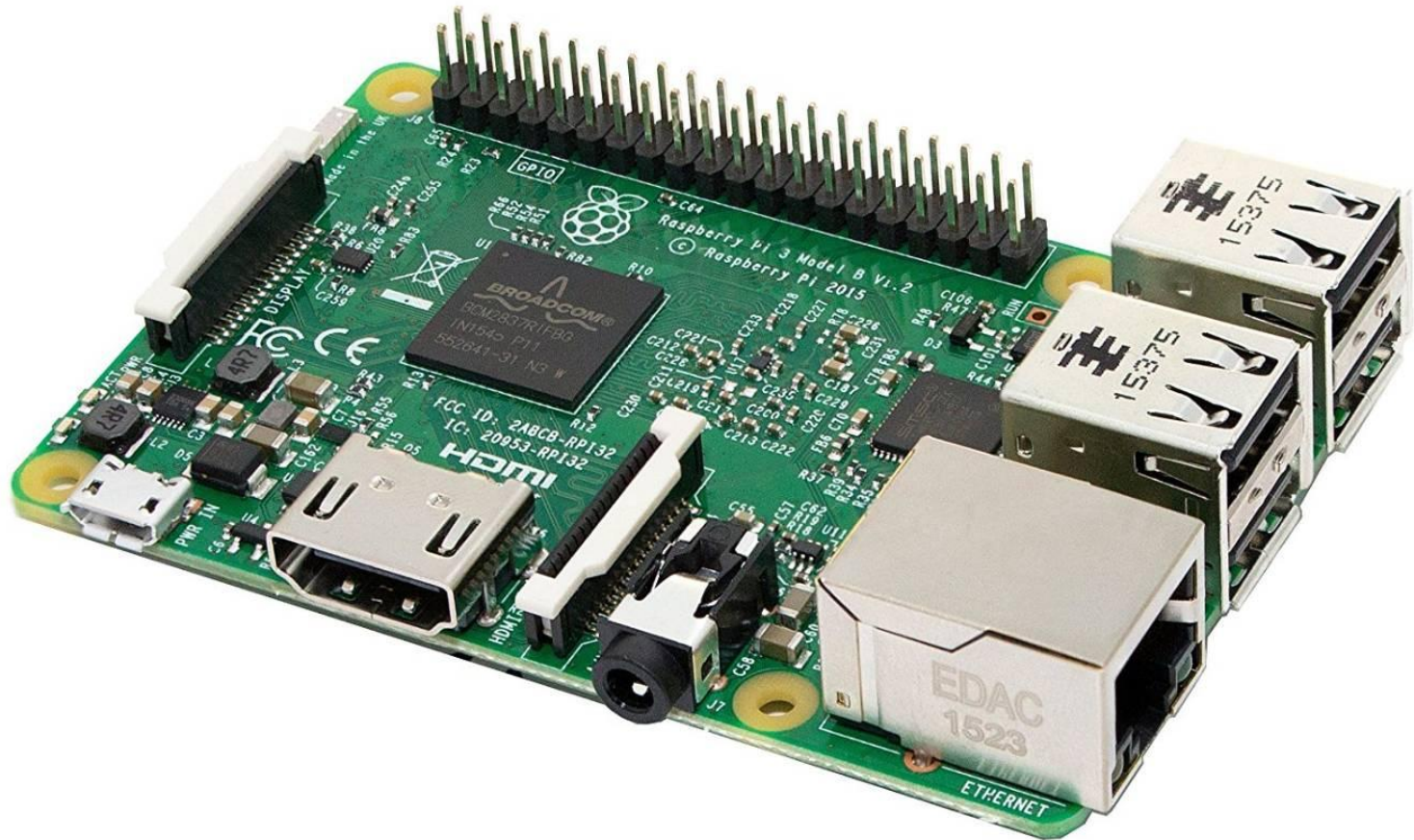


# Key Considerations for Edge Analytics

1. Creating vs Executing the analytics model.
2. Open standard for describing and exchanging models.
3. Inherent complexity in decentralized processing.

# Intelligence Beyond the Edge

Deep learning now squeezed into RPi 3 to bring intelligence to small devices.



Thank you