Computer Vision with Embedded Machine Learning

Welcome to the Course


person: 0.72
car: 0.95
person: 0.99
car: 0.98
car: 0.87
car: 0.83
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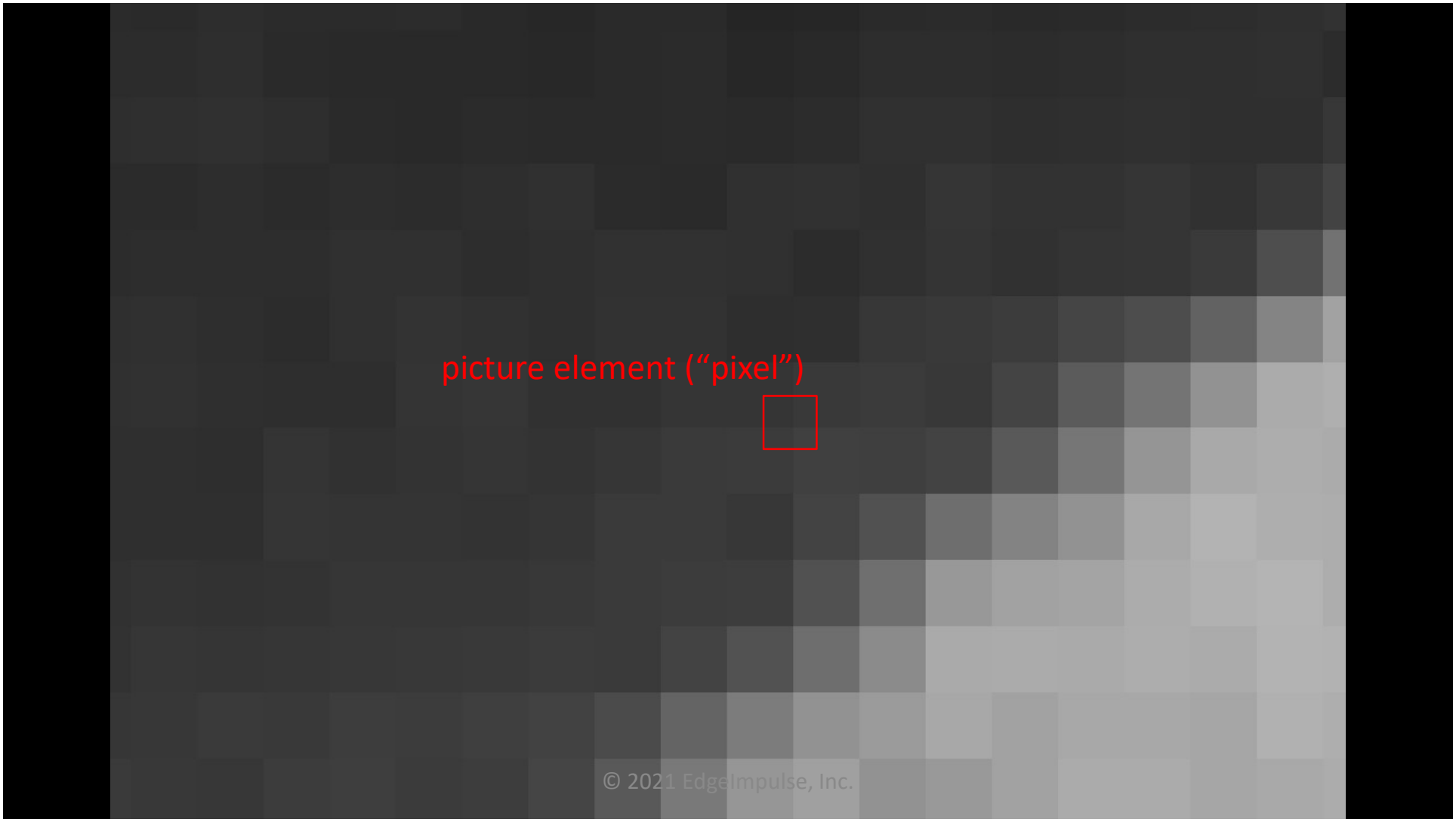
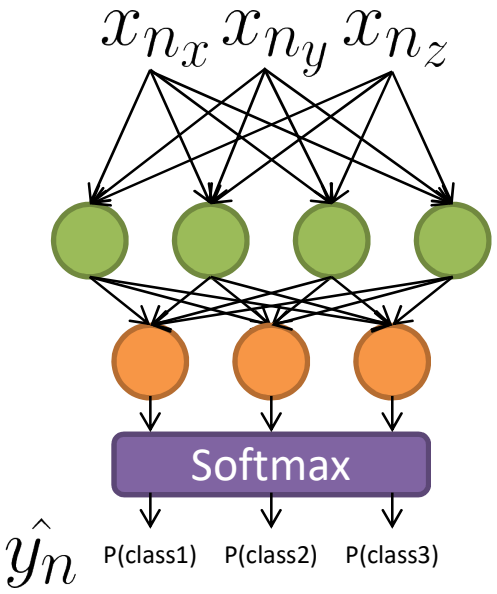


Dense Neural Network (DNN)



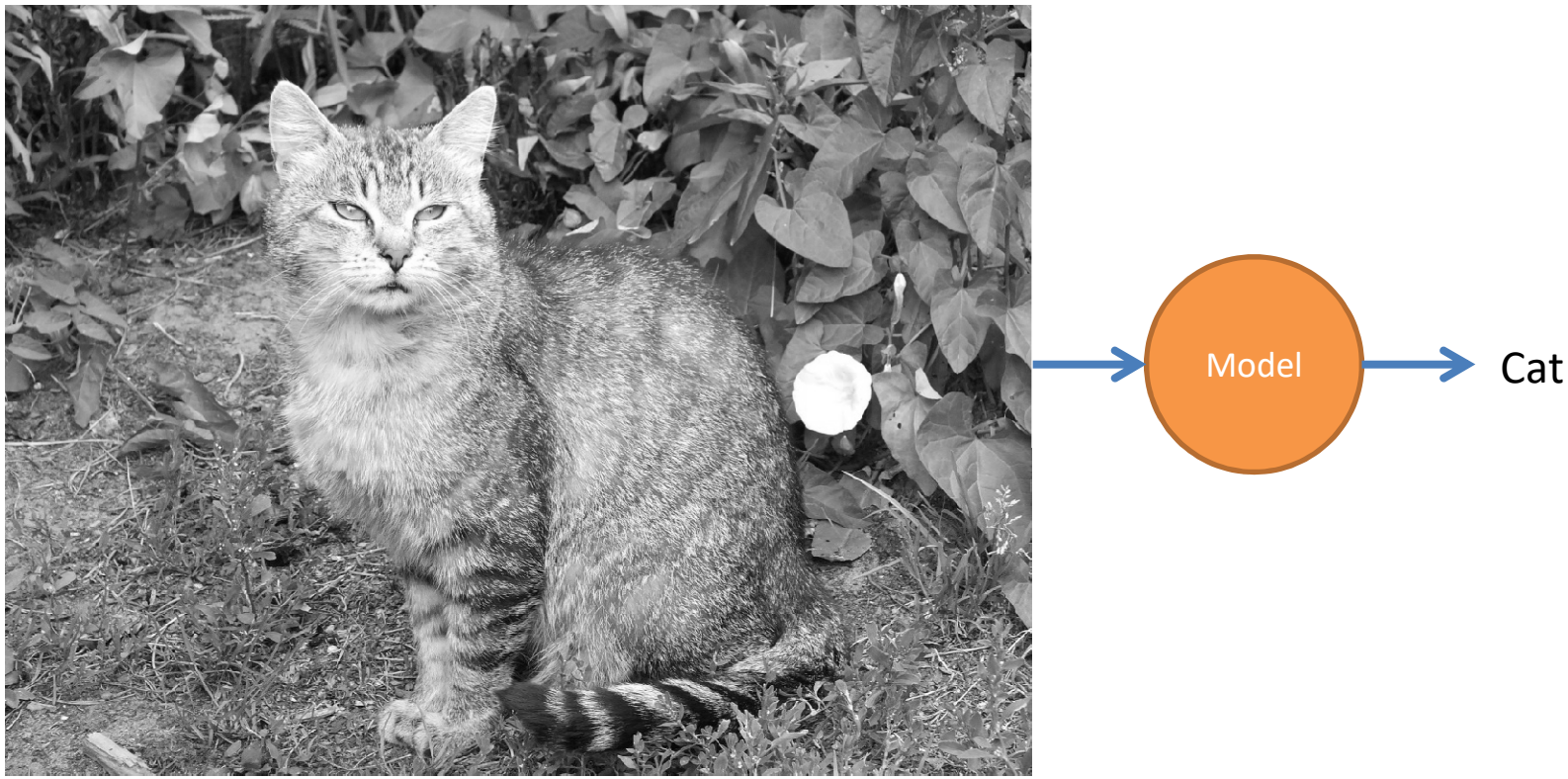
Input layer

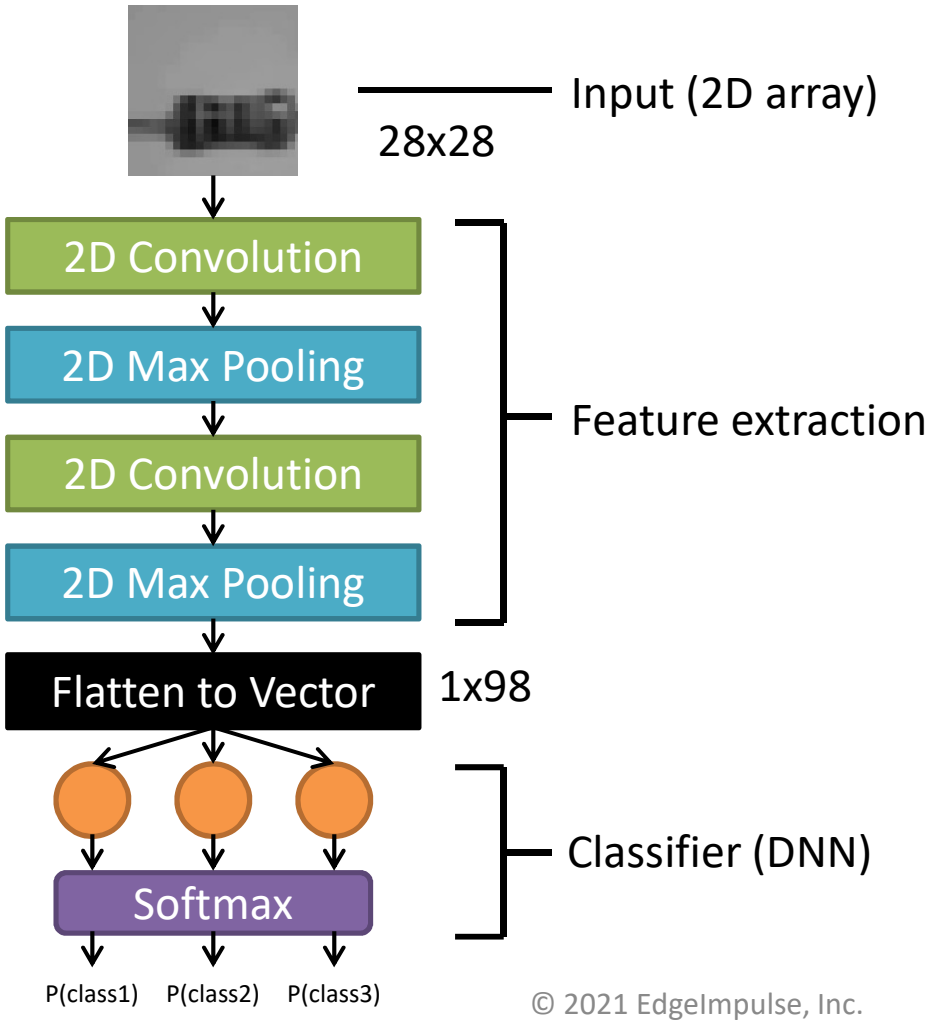
Example:
- Accelerometer: -20…20 m/s^2
- Light sensor: 0...120,000 lux

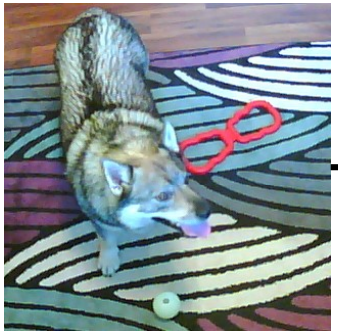
Hidden layer

Normalize input: [0, 255] → [0.0, 1.0]

Output layer







Object Detection Model

- **Object 1**
  - Class: dog (0.92)
  - Bounding box
    - (x_1, y_1)
    - (w_1, h_1)
- **Object 2**
  - Class: toy (0.85)
  - Bounding box
    - (x_2, y_2)
    - (w_2, h_2)
- **Object 3**
  - Class: ball (0.77)
  - Bounding box
    - (x_3, y_3)
    - (w_3, h_3)