**Model VGG19**

**Image size: 80  
Epochs: 10**

|  |  |  |
| --- | --- | --- |
|  | Accuracy | loss |
| Create and Train Initial Simple Model | 0.7138 | 0.7574 |
| Fine Tuning on the initial model (Unfreeze last 5 layers) | 0.7675 | 0.6049 |
| Build the model from scratch (Unfreeze All) | 0.8022 | 0.5471 |
| Add Fully Connected Layers to the tuned model (stride and padding) | 0.6403 | 0.9605 |

**Create and Train Initial Simple Model:**

**A close up of a map

Description automatically generated**

**Fine Tuning on the initial model (Unfreeze last 5 layers):**

**A close up of a map

Description automatically generated**

**Build the model from scratch (Unfreeze All):**

**A close up of a map

Description automatically generated**

**Add Fully Connected Layers to the tuned model (stride and padding):**

A close up of a map

Description automatically generated

**Image size: 100  
Epochs: 20**

|  |  |  |
| --- | --- | --- |
|  | Accuracy | loss |
| Create and Train Initial Model | 0.8354 | 0.4395 |
| Fine Tuning on the initial model (Unfreeze last 5 layers) | 0.8936 | 0.2980 |
| Build the model from scratch (Unfreeze All) | 0.9254 | 0.2150 |
| Add Fully Connected Layers to the tuned model (stride and padding) | 0.7276 | 0.7460 |

**Create and Train Initial Model:**

**A close up of a map

Description automatically generated**

**Fine Tuning on the initial model (Unfreeze last 5 layers):**

**A close up of a map

Description automatically generated**

**Build the model from scratch (Unfreeze All):**

**A close up of text on a white background

Description automatically generated**

**Add Fully Connected Layers to the tuned model (stride and padding):**

A close up of a map

Description automatically generated

Predictons on the Test Set

Save the Model

Class Activation Map (CAM)