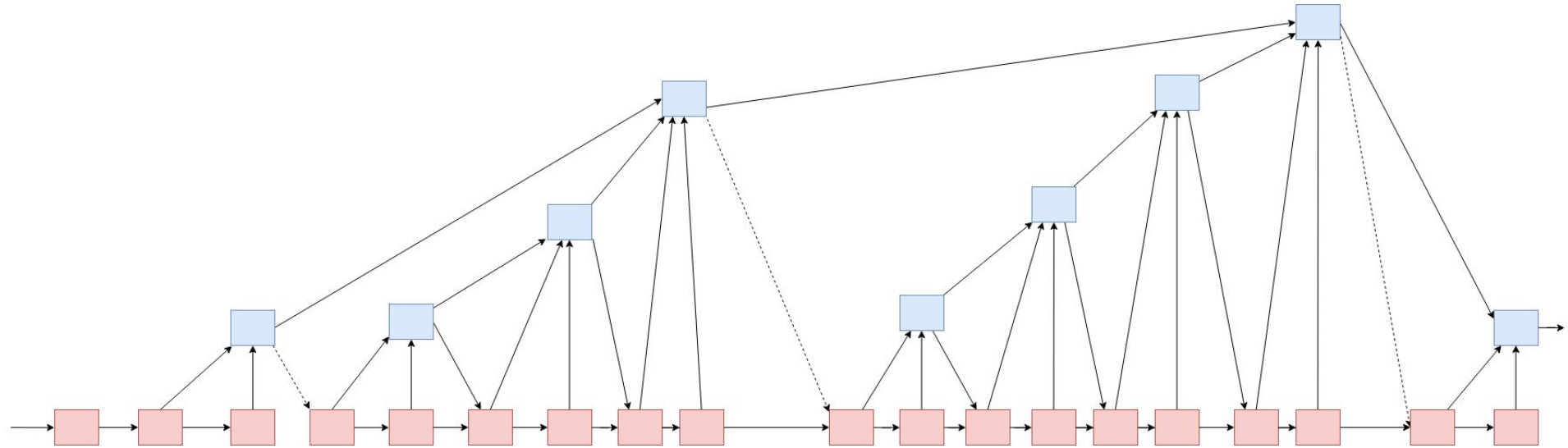
Cars Classification

How to automate the process of recognising the details of the vehicles ?

Stanford Cars Dataset

- Total classes : 196
- Training images : 8,144
- Testing images : 8,041
- Classes format : Make, Model, Year
  ex. 2012 Tesla Model S or 2012 BMW M3 coupe.

Network Architecture



Preprocessing

- RandomResizedCrop
- Lighting
- RandomJitter
- RandomHorizontalFlip
- normalize

Implementation Details

- Batch size = 64
- Initial weight : pretrained-imagenet
- Optimizer : Stochastic Gradient Descent (SGD)
- Learning rate : 0.01 with decay 0.1 every 50 epochs
- Randomly crop 448x448 in resized 512×512

Result

```
=> loading checkpoint 'saved_model/best_model_1_june_1.53.pth.tar'
=> loaded checkpoint 'saved_model/best_model_1_june_1.53.pth.tar' (epoch 101 prec 93.272)
 * Prec@1 93.272 Prec@5 99.279
```