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Showcase of Exemplar Framings

In this example, we initialize some exemplars with different framing strategies. To generate the pdf, run publish('demo_framing','pdf');

```
cls = 'cow';
VOCYEAR = 'VOC2007';

workdir = '/nfs/baikal/tmalisie/inits11/';

%Initialize dataset
dataset_params = get_voc_dataset(VOCYEAR, workdir);

%Initialize exemplar stream with 3 exemplars
stream_set_name = 'trainval';
stream_max_ex = 3;
e_stream_set = get_pascal_exemplar_stream(dataset_params, ...
                                          stream_set_name, ...
                                          cls, stream_max_ex);

%Initialize scene stream with 3 scenes
e_scene_stream_set = get_pascal_scene_stream(dataset_params, ...
                                             stream_set_name, ...
                                             cls, stream_max_ex);


......
```

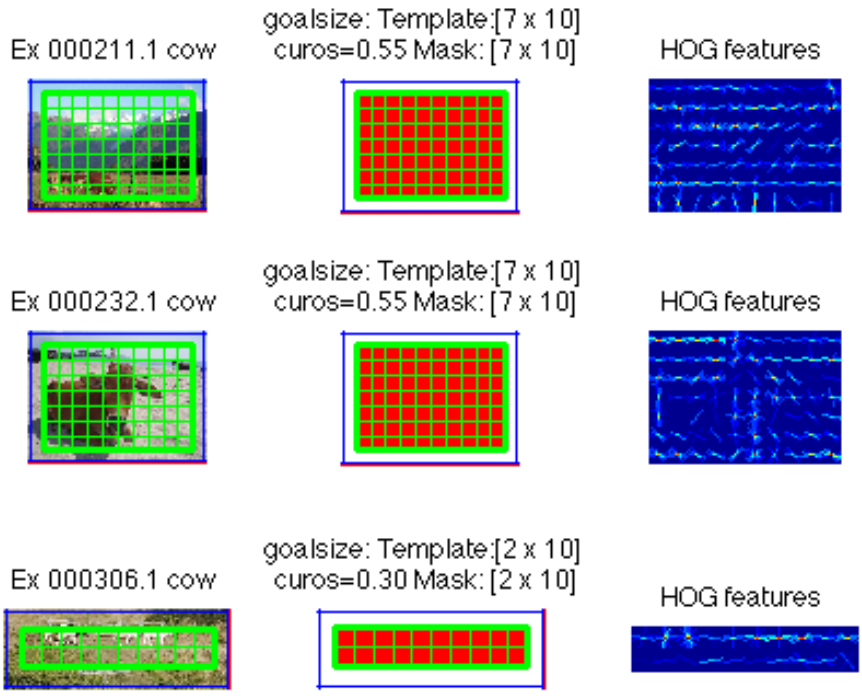
Scene: GoalSize goal_ncells = [100], MAXDIM=[10]

This mode will try create a framing which is made up of a target number of cells, subject to one dimension being at most MAXDIM

```
clear init_params;
init_params.sbin = 8;
init_params.goal_ncells = 100;
init_params.MAXDIM = 10;
init_params.init_type = 'goalsize';
init_params.init_function = @initialize_goalsize_model;
models_name = ['demo_scene_goalsize'];
%Initialize exemplars with the exemplar stream
efiles = exemplar_initialize(dataset_params, e_scene_stream_set, ...
                             models_name, init_params);
```

```
models = load_all_models(dataset_params, cls, models_name, ...
                         efiles);

show_exemplar_frames(models, 5, dataset_params);
snapnow;
```

```
Making directory /nfs/baikal/tmalisie/inits11//VOC2007/local//models/cow-demo_scen
.hg_size = [2 10]
Localizing 1 in I=[176x500@10]
.hg_size = [7 10]
Localizing 1 in I=[375x500@10]
.hg_size = [7 10]
Localizing 1 in I=[375x500@10]
Load from a total of 3 files:
...
```



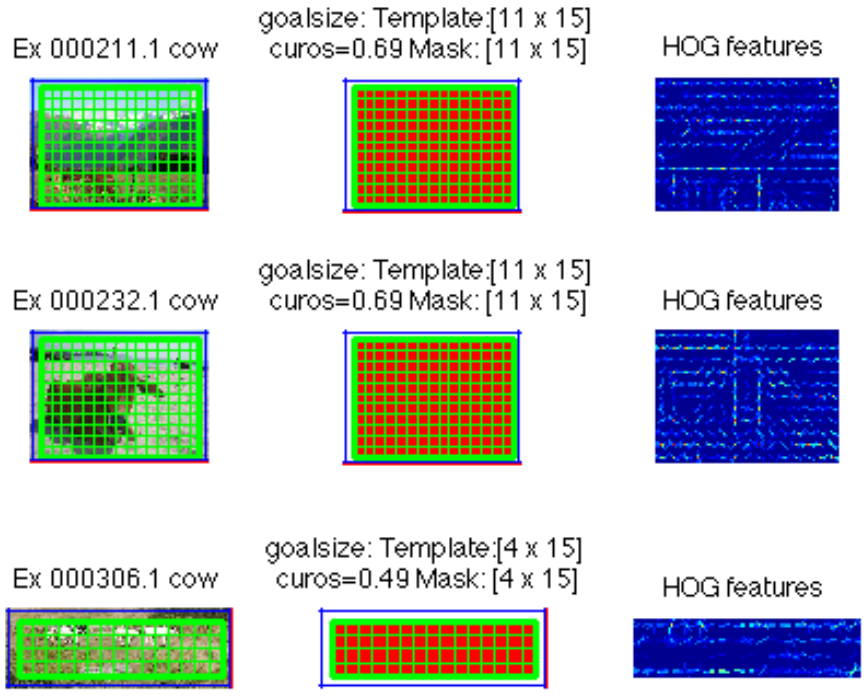
Scene: GoalSize goal_ncells = [300], MAXDIM=[15]

Here is the above example, but allowing for a much finer scene representation

```
clear init_params;
init_params.sbin = 8;
init_params.goal_ncells = 300;
init_params.MAXDIM = 15;
init_params.init_type = 'goalsize';
init_params.init_function = @initialize_goalsize_model;
models_name = ['demo_scene_goalsize_maxdim'];
```

```
%Initialize exemplars with the exemplar stream
efiles = exemplar_initialize(dataset_params, e_scene_stream_set, ...
                             models_name, init_params);

models = load_all_models(dataset_params, cls, models_name, ...
                         efiles);

show_exemplar_frames(models, 5, dataset_params);
snapnow;

%Delete files (only for demo)
for i = 1:length(efiles)
 delete(efiles{i});
end
```

```
Making directory /nfs/baikal/tmalisie/inits11//VOC2007/local//models/cow-demo_scen
.hg_size = [4 15]
Localizing 1 in I=[176x500@10]
.hg_size = [11 15]
Localizing 1 in I=[375x500@10]
.hg_size = [11 15]
Localizing 1 in I=[375x500@10]
Load from a total of 3 files:
...
```

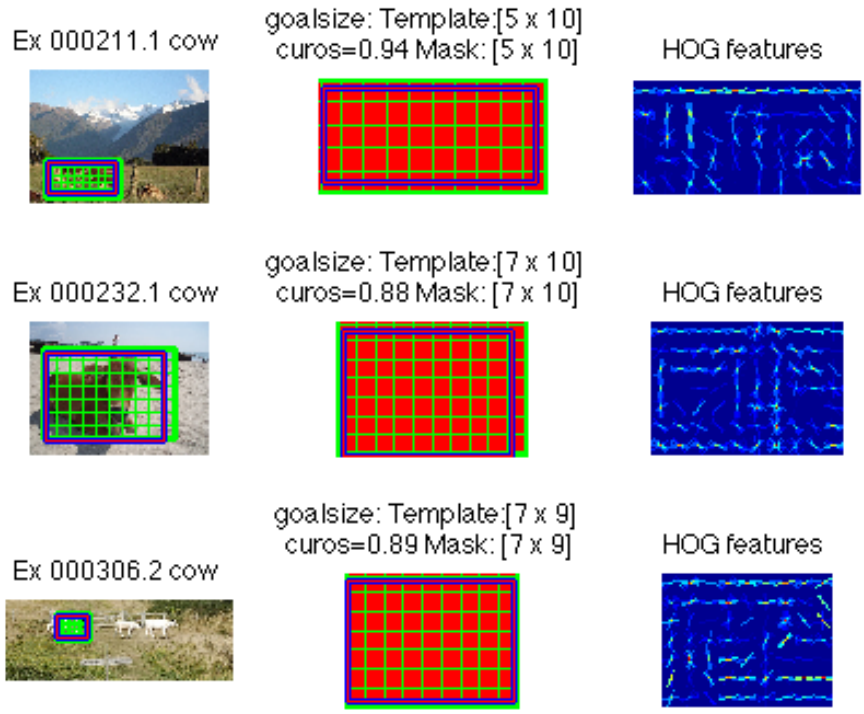


Exemplars: GoalSize goal_ncells = [100], MAXDIM=[10]

Experiment repeated for exemplars

```
clear init_params;
init_params.sbin = 8;
init_params.goal_ncells = 100;
init_params.MAXDIM = 10;
init_params.init_type = 'goalsize';
init_params.init_function = @initialize_goalsize_model;
models_name = ['demo_ex_goalsize'];

%Initialize exemplars with the exemplar stream
efiles = exemplar_initialize(dataset_params, e_stream_set, ...
                             models_name, init_params);

models = load_all_models(dataset_params, cls, models_name, ...
                         efiles);

show_exemplar_frames(models, 5, dataset_params);
snapnow;

%Delete files (only for demo)
for i = 1:length(efiles)
 delete(efiles{i});
end
```

```
Making directory /nfs/baikal/tmalisie/inits11//VOC2007/local//models/cow-demo_ex_g
.hg_size = [7 9]
Localizing 1 in I=[176x500@10]
.hg_size = [5 10]
Localizing 1 in I=[375x500@10]
.hg_size = [7 10]
Localizing 1 in I=[375x500@10]
Load from a total of 3 files:
...
```

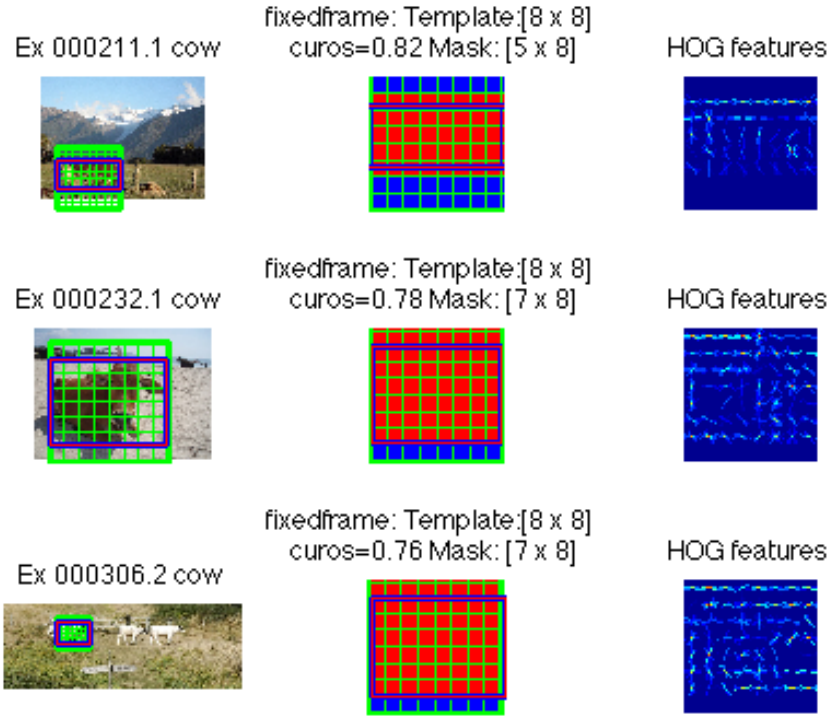


Exemplar: FixedFrame hg_size = [8 8]

Experiment for fixed-size exemplars

```
clear init_params;
init_params.sbin = 8;
init_params.hg_size = [8 8];
init_params.init_type = 'fixedframe';
init_params.init_function = @initialize_fixedframe_model;
models_name = ['demo_ex_ff'];

%Initialize exemplars with the exemplar stream
efiles = exemplar_initialize(dataset_params, e_stream_set, ...
                             models_name, init_params);

models = load_all_models(dataset_params, cls, models_name, ...
                         efiles);

show_exemplar_frames(models, 5, dataset_params);
snapnow;

%Delete files (only for demo)
for i = 1:length(efiles)
  delete(efiles{i});
end
```

```
Making directory /nfs/baikal/tmalisie/inits11//VOC2007/local//models/cow-demo_ex_f
...Load from a total of 3 files:
...
```



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