
Selam Documentation

Release 0.1

Ray Tan

May 17, 2017

Contents

1	Selam	3
1.1	Features	3
1.2	Credits	3
2	Getting Started	5
2.1	Stable release	5
2.2	From sources	5
3	Training & Evaluation	7
3.1	Ground Truth Generation	7
3.2	Tracker Evaluation	7
4	Preprocessing	9
4.1	Color Correction	9
4.2	Underwater Image Enhancement	9
5	Object Proposal	11
5.1	Grouping-based object proposal	11
5.2	Window scoring-based object proposal	11
5.3	Blob-based object proposal	11
5.4	Saliency-based object proposal	11
6	Feature Engineering	13
6.1	Choosing color spaces	13
6.2	Feature Detector & Descriptor	13
7	Model Learning	15
7.1	Data Augmentation	15
7.2	Training Classifier	15
7.3	Unsupervised Learning	15
8	Automatic machine learning	17
8.1	Feature Selection	17
8.2	Model Selection	17
9	Object Tracking	19
9.1	Single Object Tracking (Fixed Model)	19
9.2	Online Update	19

Contents:

Underwater object tracking framework for Robosub

- Free software: MIT license
- Documentation: <https://selam.readthedocs.io>.

Features

1. Underwater image preprocessing
2. Object proposals
3. Automatic machine learning
4. Object tracking

Credits

This package was created with [Cookiecutter](#) and the [audreyr/cookiecutter-pypackage](#) project template.

Stable release

To install Selam, run this command in your terminal:

```
$ pip install selam
```

This is the preferred method to install Selam, as it will always install the most recent stable release.

If you don't have [pip](#) installed, this [Python installation guide](#) can guide you through the process.

From sources

The sources for Selam can be downloaded from the [Github repo](#).

You can either clone the public repository:

```
$ git clone git://github.com/jinified/selam
```

Or download the [tarball](#):

```
$ curl -OL https://github.com/jinified/selam/tarball/master
```

Once you have a copy of the source, you can install it with:

```
$ python setup.py install
```


Ground Truth Generation

Using AIBU

References

Tracker Evaluation

Using VOT Toolkit

References

Color Correction

Core API

References

Underwater Image Enhancement

Core API

References

Grouping-based object proposal

Core API

References

Window scoring-based object proposal

Core API

References

Blob-based object proposal

Core API

References

Saliency-based object proposal

Core API

References

Choosing color spaces

Core API

References

Feature Detector & Descriptor

Core API

References

Data Augmentation

Core API

References

Training Classifier

Core API

References

Unsupervised Learning

Core API

References

Feature Selection

Core API

References

Model Selection

Core API

References

Single Object Tracking (Fixed Model)

Core API

References

Online Update

Core API

References

CHAPTER 10

Indices and tables

- `genindex`
- `modindex`
- `search`