

Salamander: computer vision for wildlife research

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Abstract

This document outlines an image processing application called Salamander. Salamander is comprised of a set of algorithms for automatically detecting and tracking targets of interest in a video stream. It is particularly useful for filtering and segmenting video produced by field cameras for wildlife and behavioral research.

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1 Introduction

stuff

2 Algorithms

stuff

2.1 Image processing

`delta(im1, im2) - binthresh(im) - binmorph(im)`

2.2 Detection

`connectedComponents(im)`. How to handle noise.

2.3 Tracking

Shifting over merged blobs. Multiple targets.

2.4 Segmentation

Data structures. Testing if gap has target.

3 The Salamander toolkit

stuff

3.1 Build and install

stuff

3.2 Usage

stuff

3.2.1 binthresh and binmorph

stuff

3.2.2 filter

stuff

3.2.3 detect

stuff

3.2.4 segment

stuff

3.3 Processing a feed in realtime

stuff

4 Machine learning

I still need to research how and if to use this.