Saccadic Biases

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Abstract

More bias modelling. Cause who can be bothered running actual experiments?

1 Introduction

Improve on last year's [Clarke and Tatler, 2014] effort.

2 Methods

2.1 Datasets

2.2 Pre-processing

3 Biases

We will model and discuss saccadic flow, coarse-to-fine, and left v right.

3.1 Saccadic Flow

3.2 Coarse-to-fine

People make shorter saccades over time. Include $1/f$ dynamics?

3.3 Left v Right

Initially more fixations to the left half of the image [Nuthmann and Matthias, 2014].

4 Using Biases for Better Analysis

We will use the the central biase [Clarke and Tatler, 2014] and *saccadic flow* in some different contexts to see what biases can do for vision research. :p

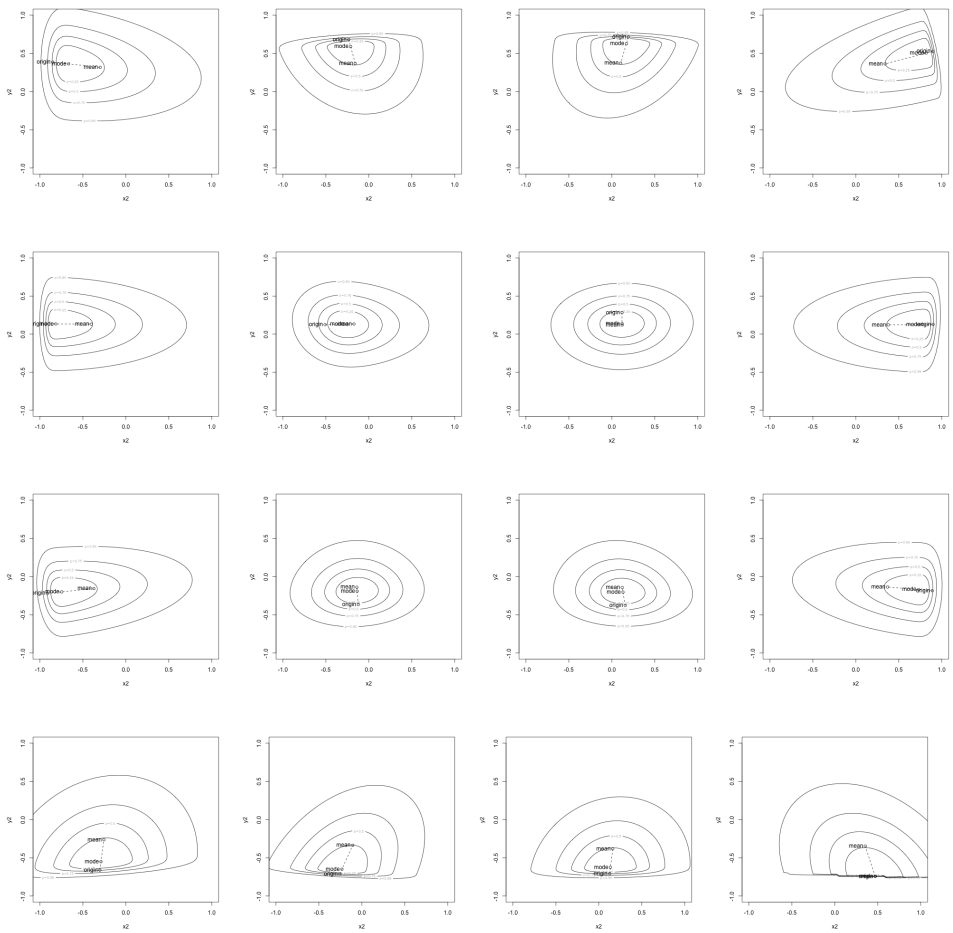

Figure 1: Multivariate skew-normal distributions fitted to fixation location, by saccade start point.

4.1 Attentional Landscapes

Or do we call them hotspot maps?

4.2 ROC Analysis

Example of using our models rather than shuffle approaches.

4.3 Flow and Coarse to fine

To what extent does saccadic flow account for coarse-to-fine dynamics

4.4 Inverse Yarbus

Do these biases allow us to improve inverse yarbus performance?

4.5 Salience

Does salience explain the less likely saccades?

5 Discussion

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References

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Antje Nuthmann and Ellen Matthias. Time course of pseudoneglect in scene viewing. *Cortex*, 52:113–119, 2014.