Results from the Turk 20 Study

Susan VanderPlas*
Department of Statistics and Statistical Laboratory, Iowa State University
and
Heike Hofmann
Department of Statistics and Statistical Laboratory, Iowa State University

December 18, 2015

Abstract

Graphics play a crucial role in statistical analysis and data mining. Being able to quantify structure in data that is visible in plots, and how people read the structure from plots is an ongoing challenge. XXX just a placeholder

Keywords: Visual inference, Lineup protocol, XXX Other keywords?.

*The authors gratefully acknowledge funding from the National Science Foundation Grant # DMS 1007697. All data collection has been conducted with approval from the Institutional Review Board IRB 10-347

Contents

List of things to do:

1. match turk 16 and turk 19 properly: DONE
2. identify minor and major semi axes of ellipses: DONE
3. merge relevant study results in one frame
4. merge minor and major axes with study results
5. include discussion of color scheme: idea: essentially all color schemes give the same result, but the original study gave a bit better performance based on Heer's color scheme with additional tweaks

1 Motivation and Background

Motivation: in a previous study we noticed that an imbalance in the size of clusters made participants -depending on the set of aesthetics used- change their target.

2 Overview of all plots involved