

Combining Visual Guidance with Haptic Feedback to Increase Awareness of Analytic Behavior during Visual Data Analysis

*equal contribution

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Overview

BiasBuzz guides people to make more informed decisions by making them aware of unconscious exploration biases that drive their data analyses.

Exploration bias occurs when the user over- or underemphasizes certain data during analysis.

Scenario

You are assessing credit applications that determine if a person's loan can be approved.

Several biases may be at play ...

Applications

BiasBuzz can be used across multiple domains to tackle, e.g.,

Age bias

in loan applications,

Gender bias in C-suite promotions,

Racial bias in parole applications.

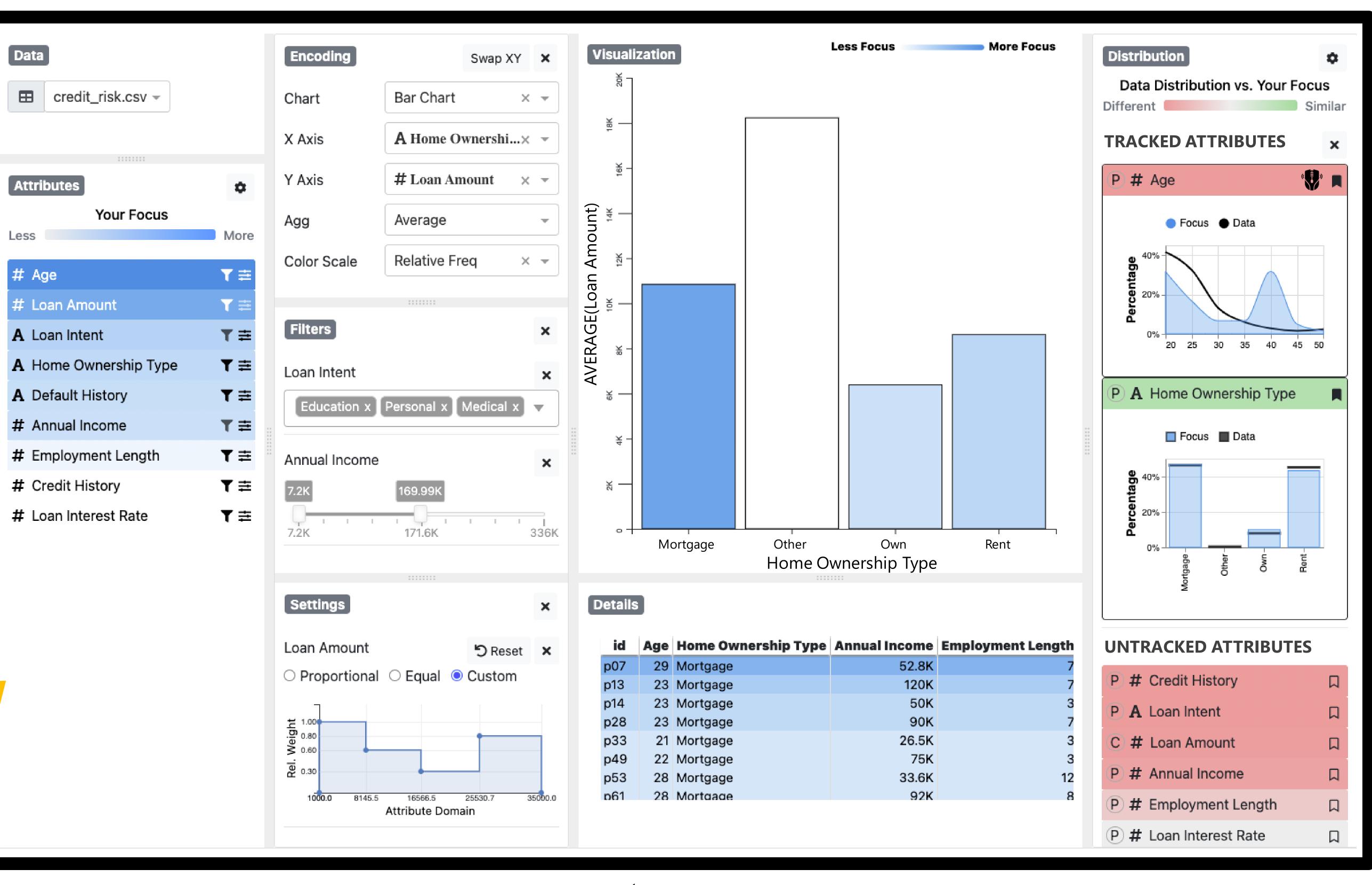
How **often** do you look at specific attributes? Blue = more focus

Set your encodings, filters and visualize your data?

Alex Endert

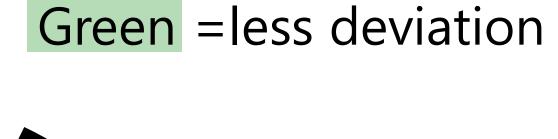
How much **focus** do you give to your data points?

Blue = more focus



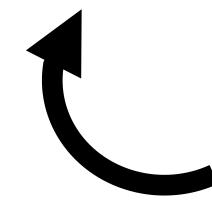
How much does your **focus** deviate from the data?







Set target distributions for your analysis



More details to help you find insights

Gaming Mouse "buzzes" when deviation is high.

What did our users have to say?

"The vibrations & visual alerts were good at drawing my attention towards the data points I missed out on."

"The vibrations reminded me of my goal, so I accordingly changed my focus on the data points."

"I might get immune to the vibrations and discard them as a nuisance rather than something helpful."

"I prefer a post-facto email with suggestions rather than instant haptic punishments."