Visualizing Three Numeric Variables

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Overview

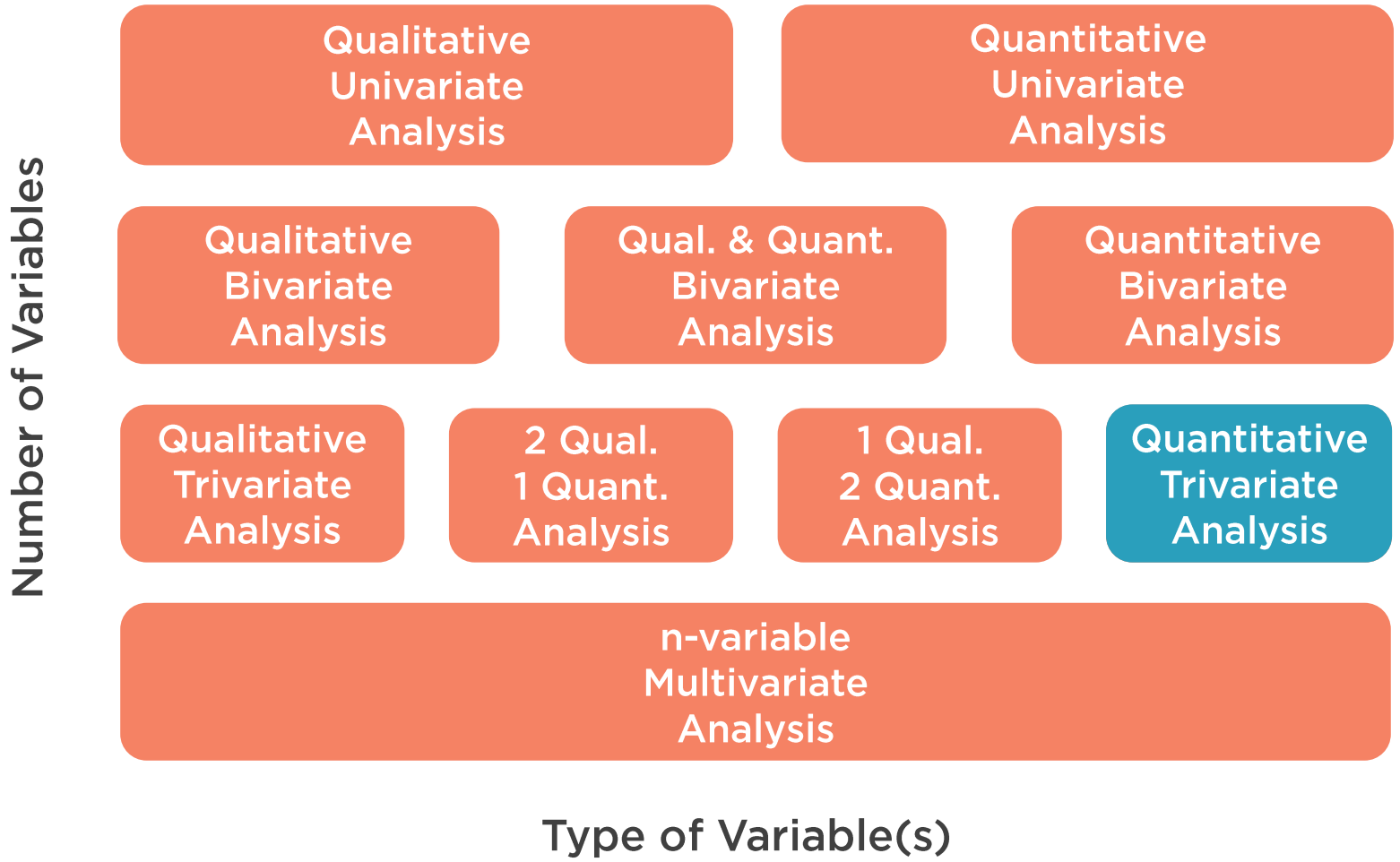
Visualizing Three Numeric Variables

Demo (Base)

Demo (Lattice)

Demo (ggplot2)

Types of Data Analysis



Quantitative Trivariate Analysis

Three numeric variables

Relationship among them

Runtime	Critic Score	Box Office
98	45	57.3
39	45	13.4
155	76	187.3
82	65	135.6
99	30	0.5
...	...	...
115	64	27.9

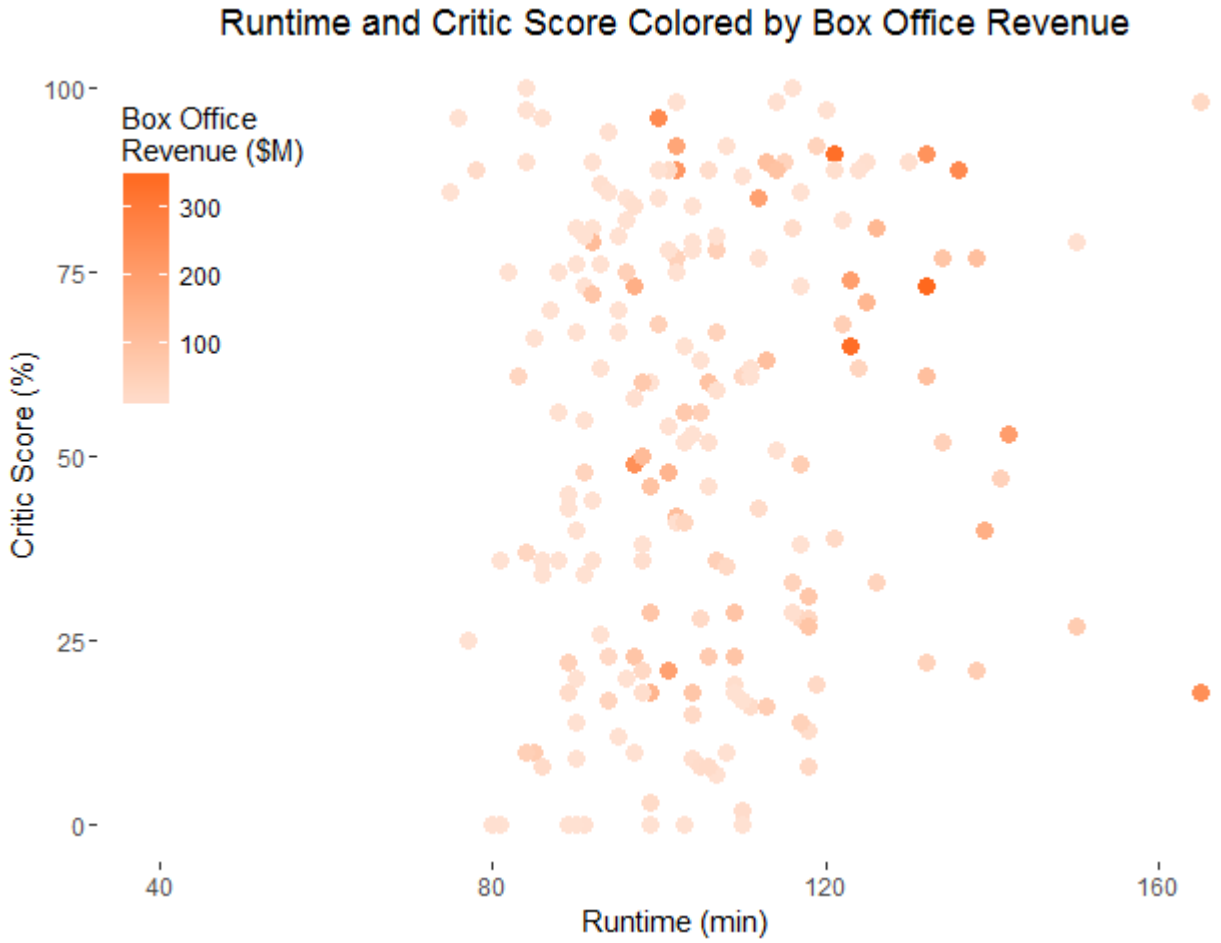
Gradient Color-scale Scatterplot

Scatterplot

Numeric color scale

Continuous color palette

Two-color gradient



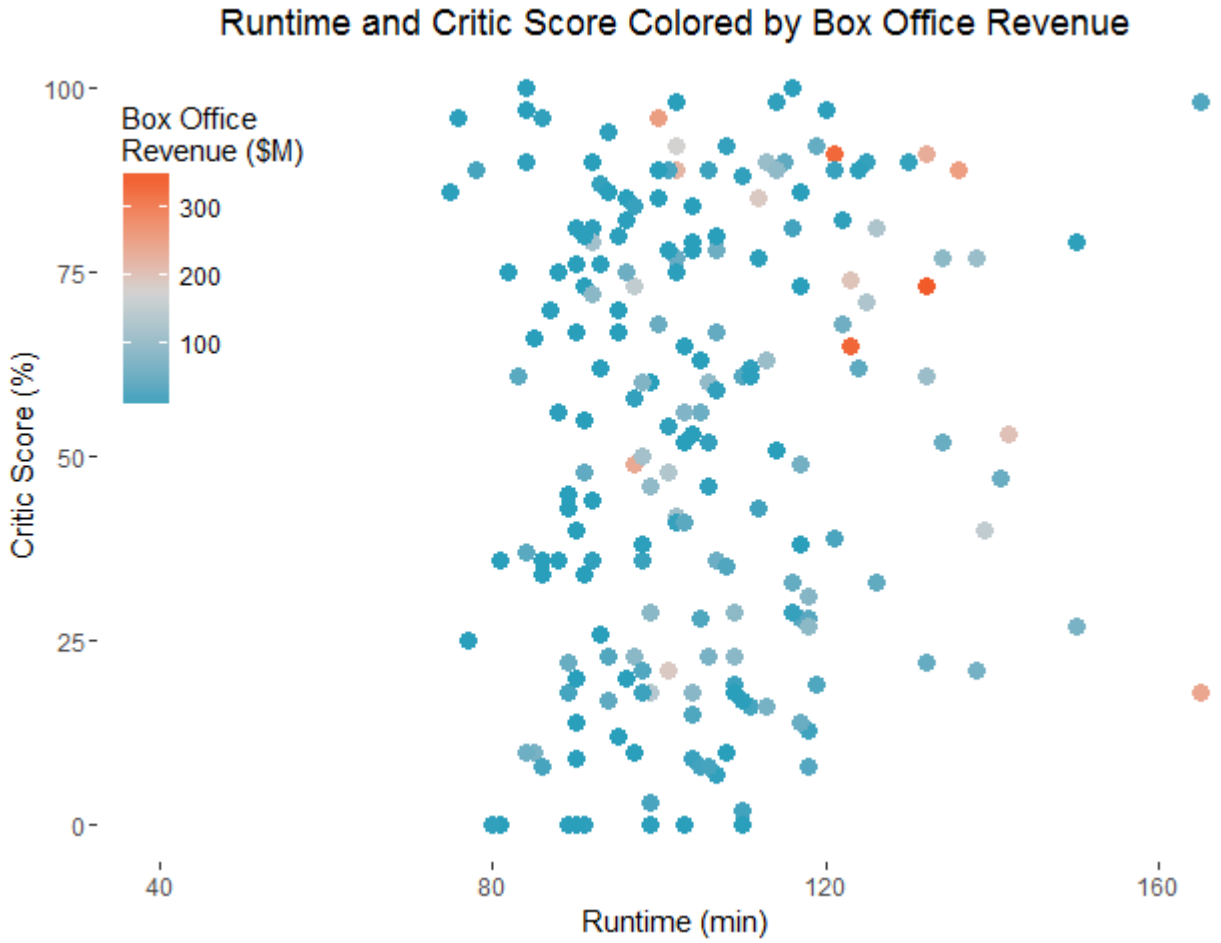
Divergent Color-scale Scatterplot

Scatterplot

Numeric color scale

Continuous color palette

Three-color gradient

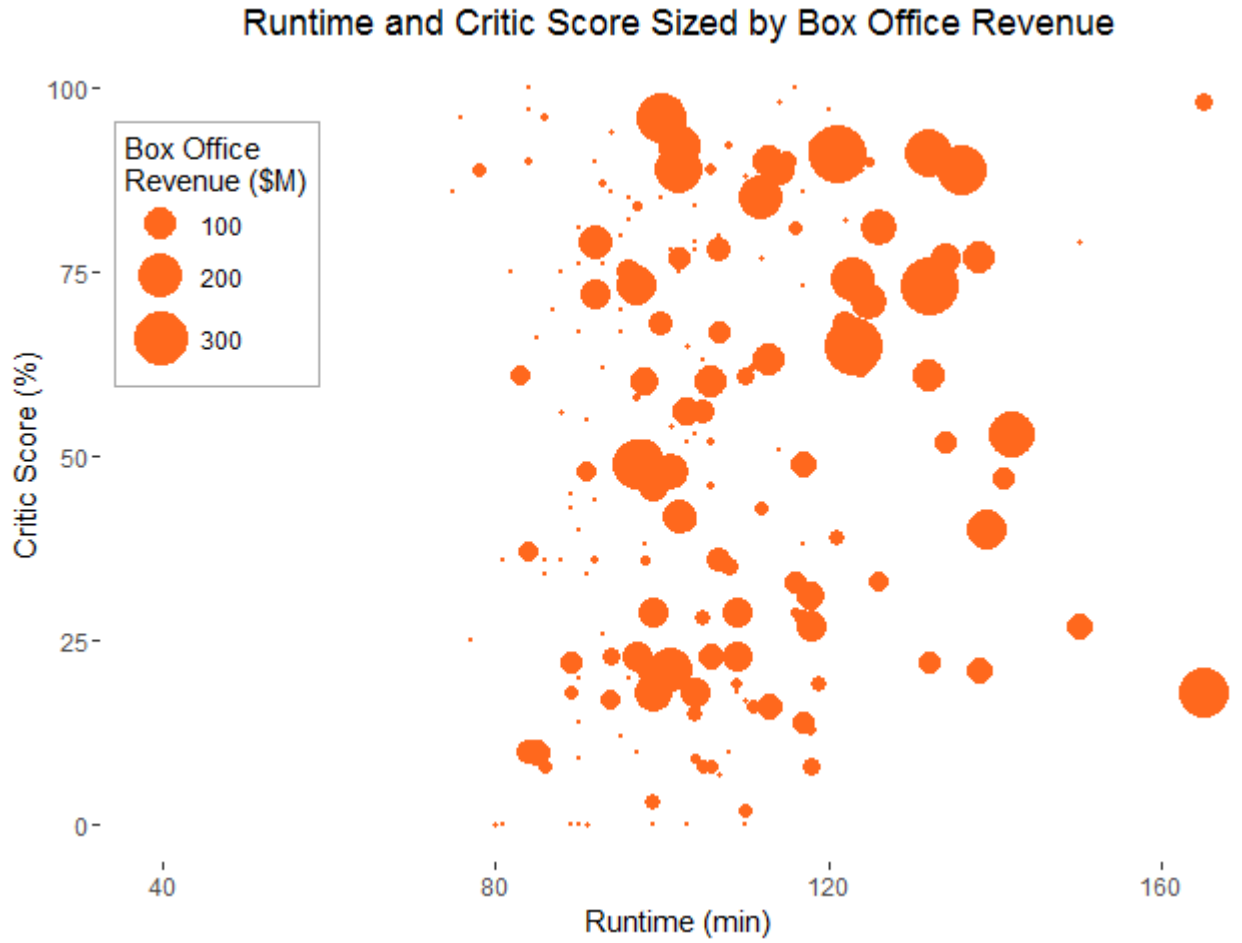


Bubble Chart

Scatterplot

Numeric size scale

Area vs. diameter

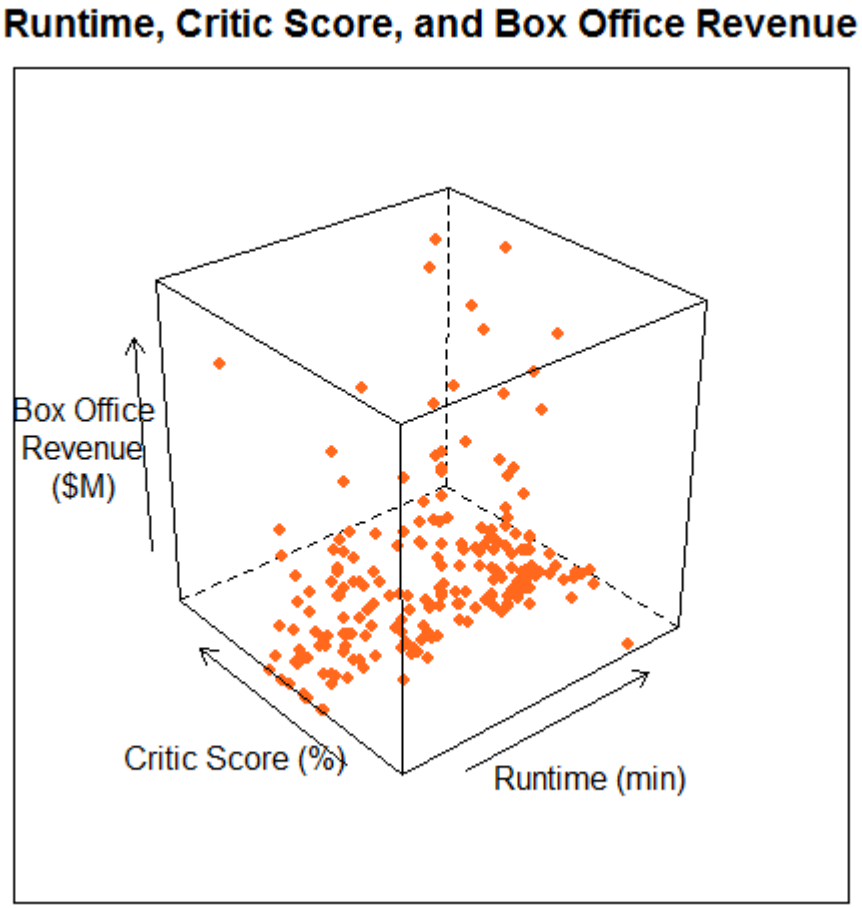


3D Scatterplot

Scatterplot

Third-dimension

Perspective enhancements

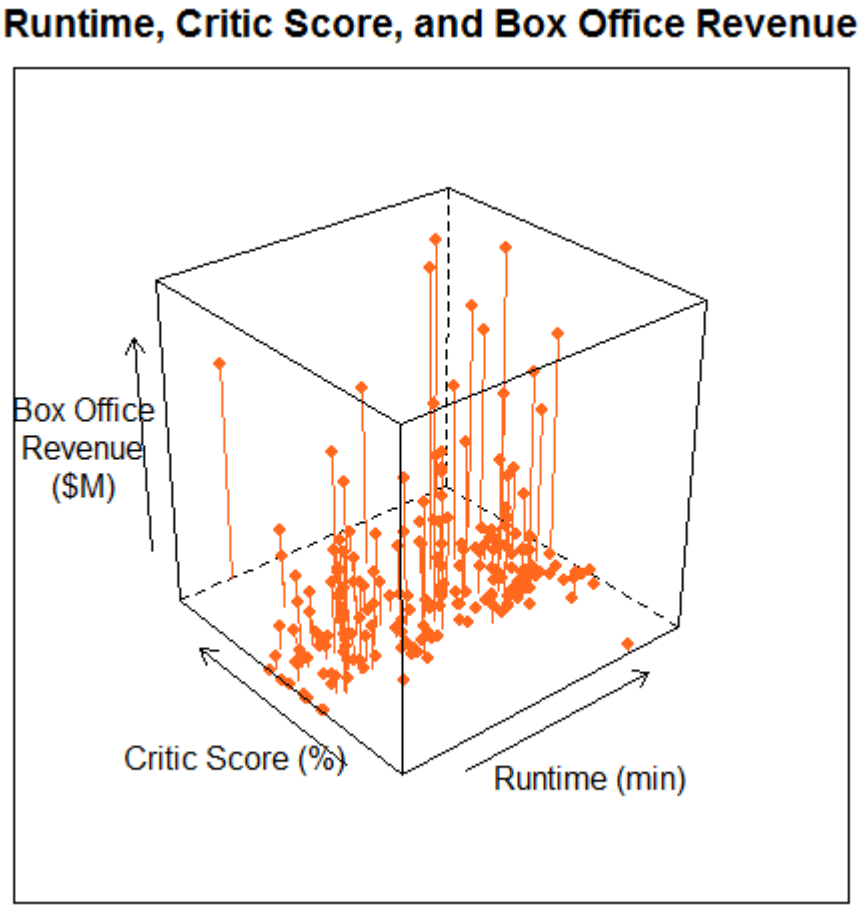


3D Scatterplot

Scatterplot

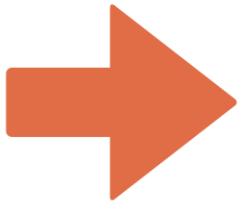
Third-dimension

Perspective enhancements



Convert Numeric to Categorical

Critic Score	Runtime	Box Office
45	98	57.3
45	39	13.4
76	155	187.3
65	82	135.6
30	99	0.5
...	...	...
64	115	27.9



Critic Score	Average Runtime	Avg. Box Office
(0, 20]	101.8	24.1
(20, 40]	105.7	40.3
(40, 60]	104.5	46.5
(60, 80]	103.7	44.2
(80, 100]	106.5	47.2

1. How do runtime and critic score relate to box office?
2. Are their any patterns?

Create a Gradient Color Palette

Create Gradient Color-Scale Scatterplot

Create a Divergent Color Palette

Create a Divergent Color-scale Scatterplot

Create Size-by-Area Function

Create a Bubble Chart

Create 3D Scatterplot

Create a Gradient Color-Scale Scatterplot

Create a Divergent Color-Scale Scatterplot

Create a Bubble Chart

Create 3D Scatterplot

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Create 3D Scatterplot

Summary

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