

# Getting Started with Tableau





# Hello!

I am Nopphiphat Suraminitkul (Nopi)

Graduate student in Computer Science  
Statistical consultant

# Overview

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- Learning Objectives
- Introduction
- Why Tableau?
- Workshop Materials
- Data Visualization Process
- Practice



# 1. Learning Objectives



# Learning Objectives

You should leave with:

- ❖ Understanding on ways to handle different data types
- ❖ Methods for building good visualizations
- ❖ Hands-on experience with Tableau Public

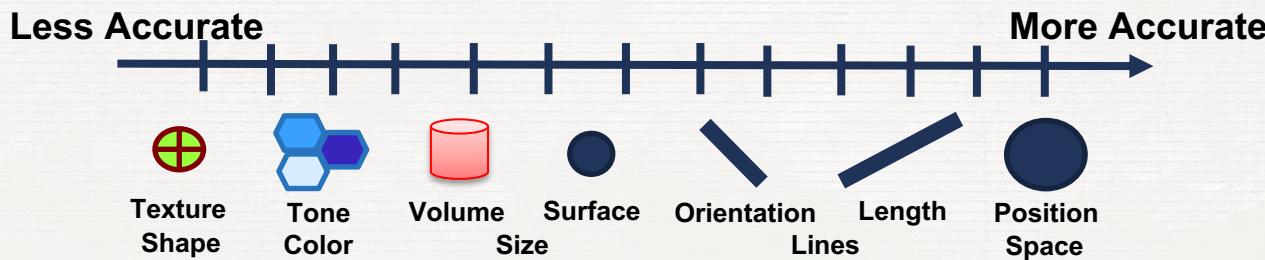


## ② Introduction to Data Visualization



# Introduction

Data visualization is the pictorial representation of dataset(s) and information using visual elements to give us a framework to make sense of masses of information, see and understand trends, detect hidden patterns, identify outliers, and develop new insights in data, which can then be used to make data driven decision.



# Why Tableau?

Advantages:

- ❖ Superior Visualization Quality with Powerful Computation
- ❖ Multiple Data Source Connections
- ❖ Easy to Learn and Use
- ❖ User-friendly Interface



# Tableau Interface

The screenshot illustrates the Tableau interface with several key components highlighted:

- Data Pane:** Located on the left side, it displays the **Dimensions**, **Measures**, **Sets**, **Parameters**, and **Data Source** sections.
- Pills:** A panel on the right side where filters like **MONTH(Order Da..)** are applied.
- Fit:** A button in the top right corner used to fit the chart area.
- Show Me:** A button in the top right corner.
- Shelves:** A panel on the left side where **Marks** like **Bar** and **Category** are selected.
- View:** A button in the center of the chart area.
- Displayed Filter:** A panel on the right side showing filters like **Region** (All, Central, East, South, West) with checkboxes.
- Legends:** A panel at the bottom left showing legends for categories like Furniture, Office Supplies, and Technology.
- Status Bar:** At the bottom left, it shows **Data Source Tab**, **288 marks**, **3 rows by 1 column**, and **SUM of AVG(Discount): 2221%**.

**Sample Worksheet:**

The worksheet displays three stacked bar charts showing Sales and Discount trends over time (Month of Order Date) for different product categories (Furniture, Office Supplies, Technology). The Y-axis represents Sales and Discount values, while the X-axis represents the Month from 2012 to 2016.

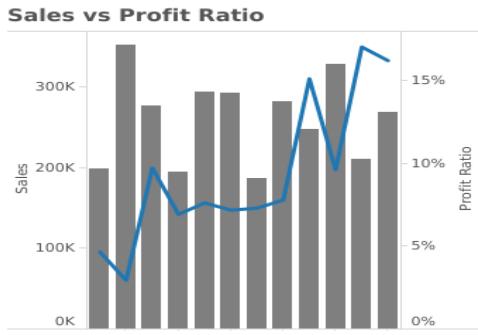
**Caption:**

The trends of sum of Sales and Discount for Order Date Month broken down by Category. For pane Sum of Sales: Color shows details about Category. For pane Average of Discount: Color shows details about Discount. The data is filtered on

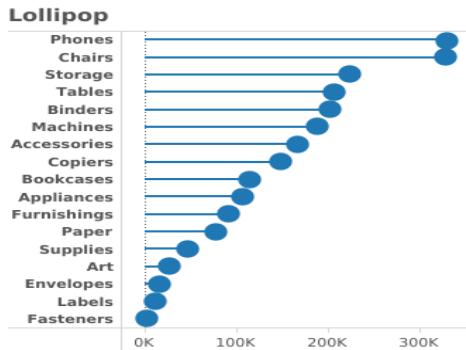


# Types of Visualization

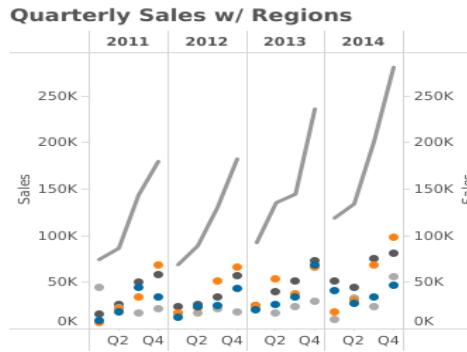
**Vertical Bar Chart**



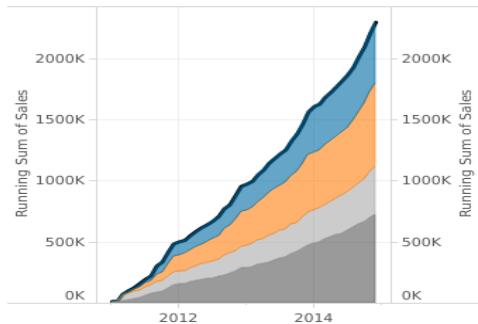
**Horizontal Bar Chart**



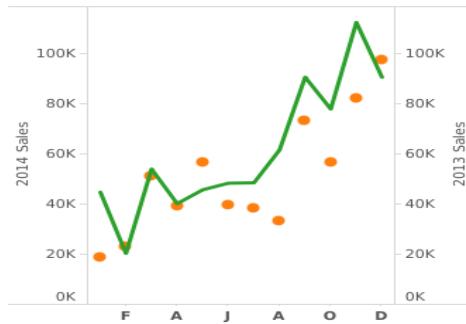
**Time Series**



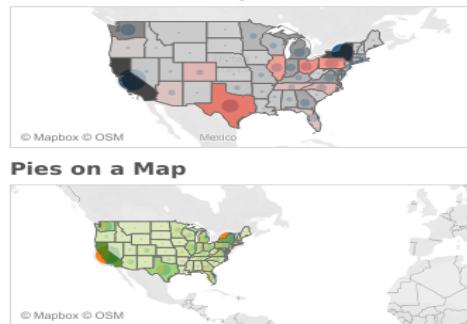
**Area Chart w/ Total**



**Year over Year**



**Sales vs Profit Map**



**Density Map**



# 3. Workshop Materials



# Workshop Material: Tableau Public

## Installation of Tableau Public

- ❖ Access <https://public.tableau.com/en-us/s/download>
- ❖ Enter your email to download the software

## (TIP) Making your work less public\*

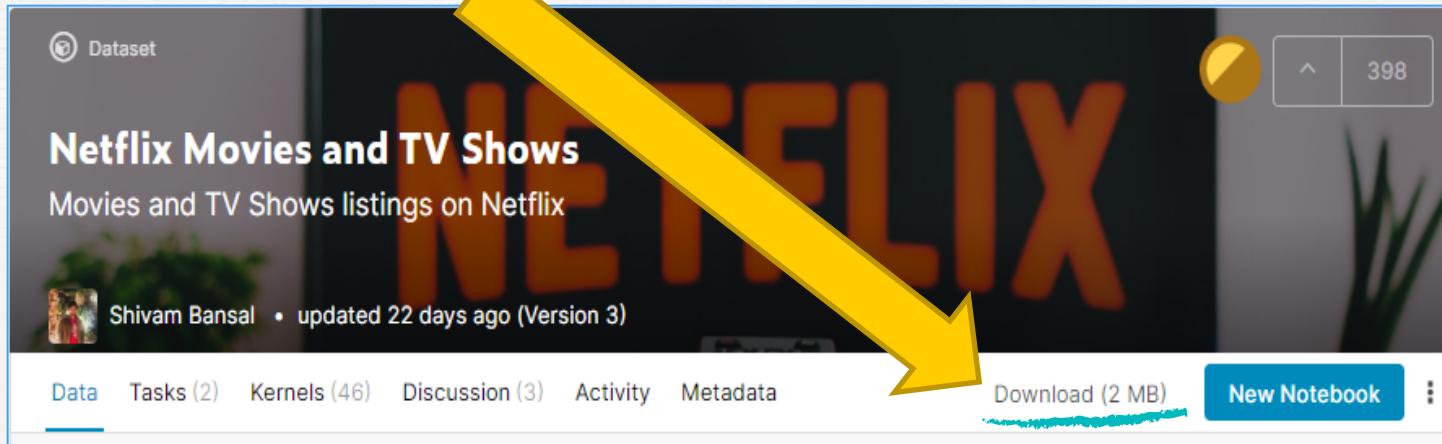
- ❖ Register and sign in to the Tableau website
- ❖ Profile icon on top-right -> click “Settings”
- ❖ Tick:
  - “Allow viz data to be downloaded”
  - “Set my vizzes to hidden”



# Workshop Material: Datasets

Access: <https://www.kaggle.com/shivamb/netflix-shows>

- X Dataset: Netflix Movies and TV Shows
- X Click “Download” and unzip the file to your desktop



4.

# Data Visualization



# Data Visualization Process

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- ❖ Loading your data
- ❖ Knowing your data: understand data definition
- ❖ Determining what to visualize: what are you looking for
- ❖ Pre-processing your data: ensure data is in correct format
- ❖ Visualizing your data
- ❖ Exporting your data





# END

Bring the attention of your audience over a key concept using icons or illustrations



# References

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- ✖ Garrett, J., Blaine, A., & Schechter, G. (2020, January 31). Getting Started with Data Visualization. Retrieved from osf.io/s4w5b
- ✖ <https://www.youtube.com/playlist?list=PLWPirh4EWFpGXTBu8IdLZGJCUeTMBpJFK>



# Step 1: Loading your data

- ✗ Open Tableau Public
- ✗ Click on “File” -> “Open...”
- ✗ Navigate to the location of the file (e.g. Desktop)
- ✗ “Select” the file

(Optional) Under “Files” in the left column,

- ✗ [Tick] Cleaned with Data Interpreter, which is designed to help take care of cleaning and transforming the data into the proper format for analysis in Tableau.



## Step 2: Knowing your data

### X What you do know / What is being measured ?

- **show\_id**: Unique ID for every movie or tv show
- **type**: Identifier – a movie or tv show
- **title**: Title of the movie or tv show
- **country**: Country where the movie or show was produced
- **date\_added**: Date it was added on Netflix
- **release\_year**: Actual release year of the movie or show
- **rating**: TV rating of the movie / show
- **duration**: Total duration – in minutes or number of seasons
- **listed\_in**: Genre



## Step 2: Knowing your data

### X What data types are we dealing with ?

Data Type	Icon
String values (Text)	ABC
Integer values (Numbers)	123
Date values (DD/MM/YYYY or MM/DD/YYYY)	2023-01-01
Date & Time values	#
Boolean values (True or False; relational)	T F
Geographic values (Region, Postal code etc.)	World
Cluster group or mixed values	Group



## Step 3: Determining what to visualize

### X What do you not know ?

- Quick overview of data

### X Can the information be represented without visualization?

- \*Not all data needs to be visualized\*

### X Does audience needs to see pattern to understand data?

- Preferences over time



## Step 4: Modification

- Other library workshop



## Step 5: Visualization

- ❑ Content Type on Netflix
- ❑ Content added over year by Type



# Pie: Content Type on Netflix

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- ✗ Drag “Type” under Dimensions to “Rows”
- ✗ Drag “Measure Values” to “Text” under Marks
- ✗ Select display “Entire View”
- ✗ From the Marks card drop-down menu, select “Pie”
- ✗ Drag “Type” to “Label” under Marks
- ✗ Drag “Measure Values” to “Label” under Marks
- ✗ Click on the inverted triangle icon on the green pill under “Measure Values” and click “Quick Table Calculation” and select “Percent of the total”



# Line: Content added over year

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- ✗ Drag “Date Added” under Dimensions to “Columns”
- ✗ Drag “Type” under Dimensions to “Rows”
- ✗ Drag “Number of Records” to “Text”
- ✗ From the Marks card drop-down menu, select “Line”
- ✗ Drag “Type” to “Color”
- ✗ Drag “Number of Records” to “Label”
- ✗ Click on “Label” and click “Select” under “Marks to Label”
- ✗ Right-click on the points you want to show label, and “Mark Label” and “Always Show”



# Map: Content by Different Countries

- ✗ Drag “Country” to the view
- ✗ Drag “Number of Records” to “Color”
- ✗ Drag “Country” to “Label”
- ✗ Click on “Label” and select “Selected” under “Marks to Label”
- ✗ Right-click the country with darker color, and select “Always Show” under “Mark Label”



# Bar Chart

- ❖ Simple Bar Chart (Vertical vs Horizontal): rectangular column with size as data in measures
  - Ctrl + W or Swap Icon
  - Raw Data Drill Down (Sub-Category drag on another dimension)
  - Group by Header (Select headers and Group)
- ❖ Colored Bar Chart
  - 1 Blue pill in column + 1 green pills in rows + 1 measure to color
  - Create set (Top 5) and color the bars by set
- ❖ Stacked Bar Chart
  - 1 Blue pill in column + 1 Green pill in rows + 1 dimension to color
- ❖ Leveled Bar Chart
  - Two blue pills in columns + 1 green pills in rows
- ❖ Interactive Bar Chart
  - Insert Filters





# Line Chart

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## ❖ Line Chart

A measure and a dimension are taken along the two axes of the chart area  
The pair of values for each observation becomes a point and the joining of all these points create a line showing the variation or relationship between the dimensions and measures chosen. -> Show Caption

## ❖ Date Line Chart

(Date Icon) “DATE” to columns and measures to rows

## ❖ Date Line Details

Dimension “Category” to Color

Measure to Label (Show maximum)

## ❖ Continuous (GREEN) vs Discrete (BLUE)

Modify the type of dates

Which year, which month, which date has highest value (continuous)

# Scatter Plots

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- ❖ Scatter Chart
  - 2 Measures in columns and rows
  - For category wise, drop the category into Shape/Color (Modify size)
- ❖ Interactive Scatter Chart
  - Filters
- ❖ Drop Lines
  - Click the point + Drop line (Edit Drop line, labels “automatic”, drop when “always”)



# Word Maps

- ❖ Drag text dimension to “Text”, Drag measure to “Size”, Set the Drop down to text  
Coloring, Bold
- ❖ Interactive Word Map

