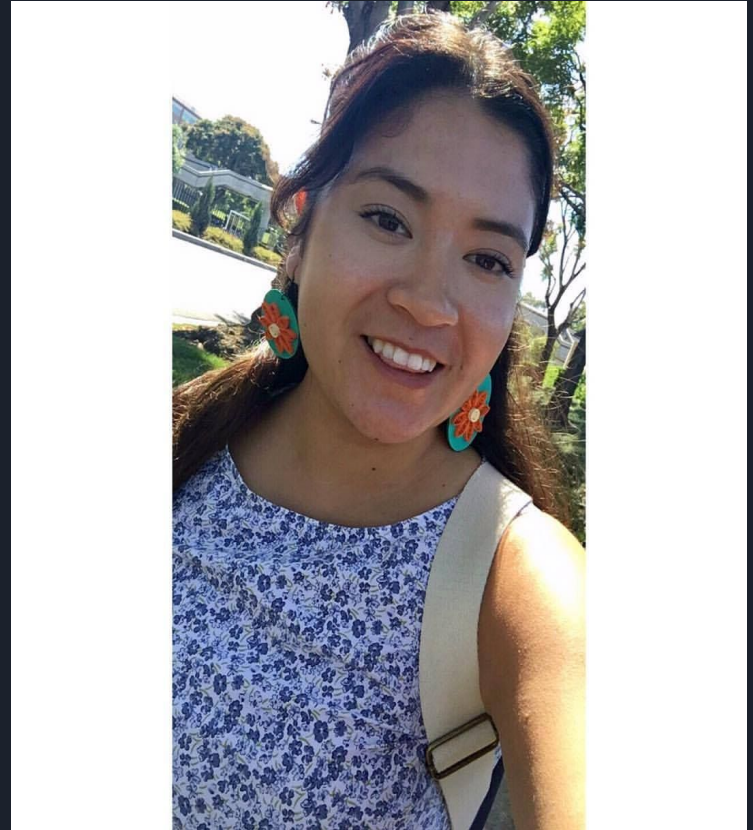# Statistician

Clara Leopo

About Me

- Clara Leopo
- Born & Raised in Santa Ana, California
- Mesa Unida: Community Service & Engagement Commissioner
- Working on B.S. in Data Science @ UCI

Middle School

- MacArthur Fundamental, Santa Ana
- Enjoyed Math and reading, did not enjoy natural sciences
- Wasn't sure on what I wanted to do

High School

- Segerstrom High School
- Thought I wanted to become a nurse
- Still enjoyed math, HW didn't seem like work to me
- Took AP Math class
- Started thinking about college

College

- Attended Santa Ana Community College
- Took General Education Courses, majored in Math
- Transferred to UCI
- Currently working on Data Science Major at UCI Department of Statistics

Data Science from the Real World

- **Web Search** – How do search engines like Google or Bing rank search results?
- **Shopping** – How does Amazon forecast how many items it needs to store in its warehouses?

Statistician $$, Job Growth

- **Median pay (annual):** 80,110 USD (2015)
- **Median pay (hourly):** 38.51 USD (2015)
- **Entry level education:** Master's degree
- **Projected 10-year growth:** 34% (2014)
- **Number of jobs:** 30,000 (2014)

What does a Statistician Do?

- works with formulas and data to help solve problems in industry, academia, and government
- works with theoretical or applied statistics. The profession exists in both the private and public sectors
- solve real-world problems in business, engineering, healthcare, or other fields.

- Clinical Data Coordinator
- Clinical Statistics Manager
- Education Research Analyst
- Human Resource Statistician
- Institutional Research Director
- Mathematical Statistician,

Let's Get Some Practice!

x	f	xf	(x-x̄)	(x-x̄)^2
1	2			
2	2			
3	2			
	n=	xf=		Σ (x- x̄)^2=

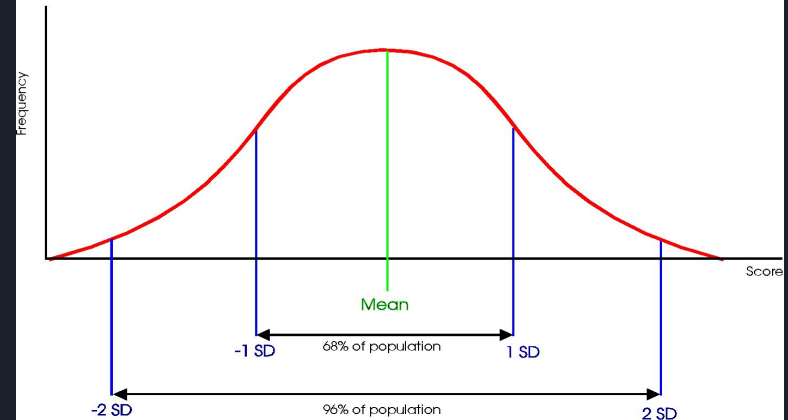### The Normal Distribution Curve

Mean:

$$\overline{X} = \frac{\Sigma X}{n}$$

Standard Deviation (population):

$$S = \sqrt{\frac{\Sigma(X - \overline{X})^2}{N}}$$

where S = the standard deviation of a sample,
Σ means "sum of,"
X = each value in the data set,
X̄ = mean of all values in the data set,
N = number of values in the data set.

Let's Get Some Practice!

x	f	xf	(x-x̄)	(x-x̄)^2
1	2	2	-1	1
2	2	4	0	0
3	2	6	1	1
	n=	xf= 12		Σ (x- x̄)^2=2

The Normal Distribution Curve

Mean:

$$\overline{X} = \frac{\Sigma X}{n}$$

12/6=2

Standard Deviation (population):

2/6= .333

$$S = \sqrt{\frac{\Sigma(X - \overline{X})^2}{N}}$$
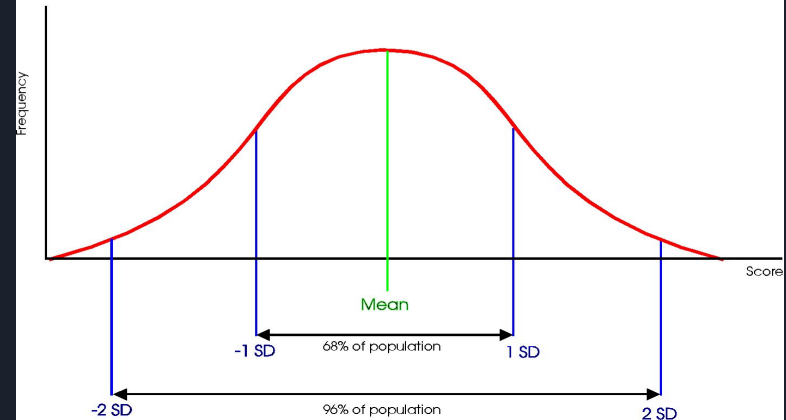
where S = the standard deviation of a sample,
Σ means "sum of,"
X = each value in the data set,
X̄ = mean of all values in the data set,
N = number of values in the data set.

THANK YOU!