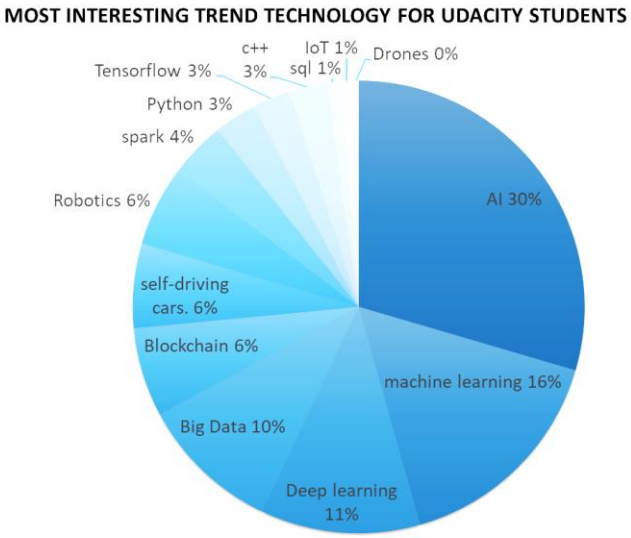
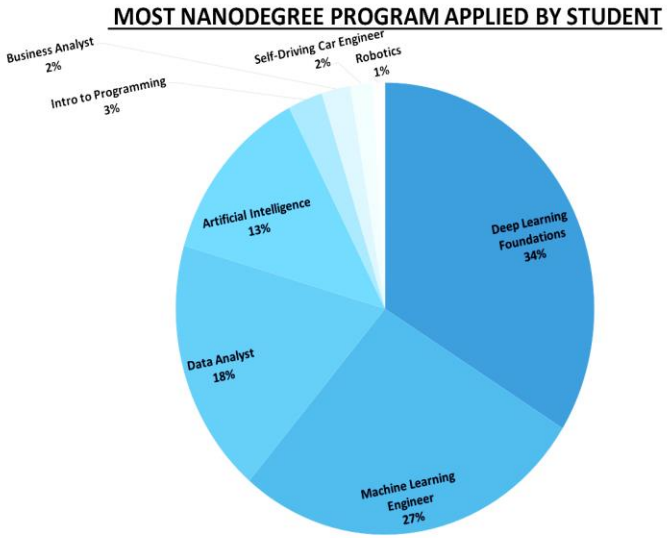
What is the most interesting trend technology for Udacity students?



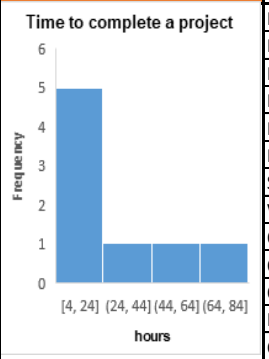


From charts we can see student show interest in **Ai** field it grow up with **17%** from what actually student applied and also **self-driving car** grow up (from 2% to 6%) , **robotics**(from 1% to 6%)
In addition, we see field like **block chain** and **big data** has popup as new target for students
And in the other way field like **deep learning** loss more than **60%** from student interest, also **machine learning** has a big drop down
And we must consider that result reflect the sample of student they apply to survey not all Udacity student population Udacity

Does the status of students employed or unemployed and their education level play role in time to complete project?

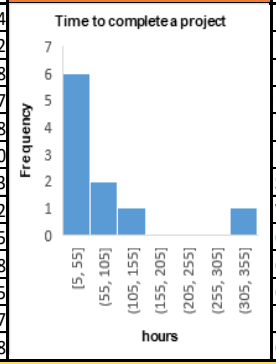
unemployed students

High school or below



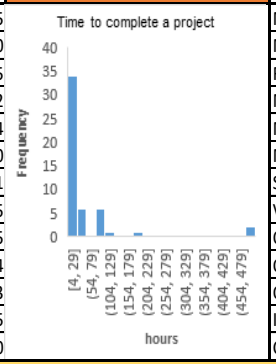
MIN	4
MAX	72
Range	68
Mean	27
MEDIAN	18
Mode	4.00
Stdv.s	25.923
Variance	672
Q1	5.5
Q2	18
Q3	52.5
IQR	47
Count(n)	8

Nanodegree Program



MIN	5
MAX	320
Range	315
Mean	68.2
MEDIAN	24
Mode	10
Stdv.s	97.1
Variance	9425.5
Q1	9.25
Q2	24
Q3	103
IQR	93.75
Count(n)	10

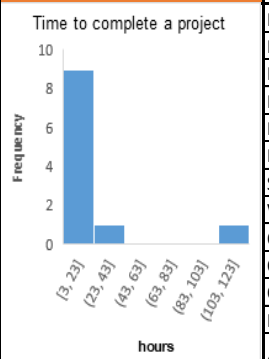
Masters



MIN	4
MAX	500
Range	496
Mean	49.46
MEDIAN	15.5
Mode	8
Stdv.s	100.02
Variance	10004.21
Q1	8
Q2	15.5
Q3	48.5
IQR	40.5
Count(n)	50

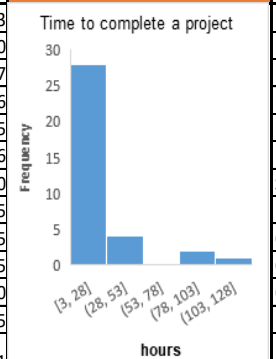
employed students

High school or below



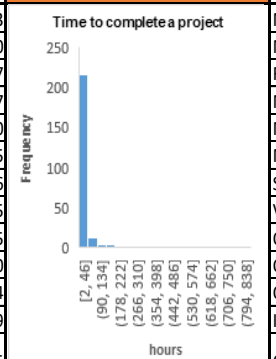
MIN	3
MAX	120
Range	117
Mean	22.36
MEDIAN	15
Mode	16
Stdv.s	33.10
Variance	1095.45
Q1	5
Q2	15
Q3	20
IQR	15
Count(n)	11

Nanodegree Program



MIN	3
MAX	120
Range	117
Mean	21.2857
MEDIAN	10
Mode	5
Stdv.s	28.4776
Variance	810.975
Q1	5
Q2	10
Q3	24
IQR	19
Count(n)	35

Masters



MIN	2
MAX	800
Range	798
Mean	32.70
MEDIAN	12
Mode	8
Stdv.s	79.29
Variance	6286.90
Q1	8
Q2	12
Q3	24
IQR	16
Count(n)	246

Comparing the **mean** time to complete project according to education level (**High school**, **nanodegree**, **master**) For each group

Employed group (22.36, 21.28, 32.7) hours

& **Unemployed group (27, 68.2, 49.46)** hours

(We can see that employed group take short time than unemployed group to complete project

So yes, status of students & education level play role in time to complete project as the static of the data simple show.

Comparing the **standard deviation, range and mean** for student with nanodegree for each group

We will found that **unemployed student** with nanodegree have **standard deviation (97.1)** and **mean (68.2)** and that make the distance is big between them

,**employed student** with nanodegree have **standard deviation (28.47)** and **mean (21.28)** and that make the distance is too close between them

So employed student with nanodegree so closer to its mean than unemployed student

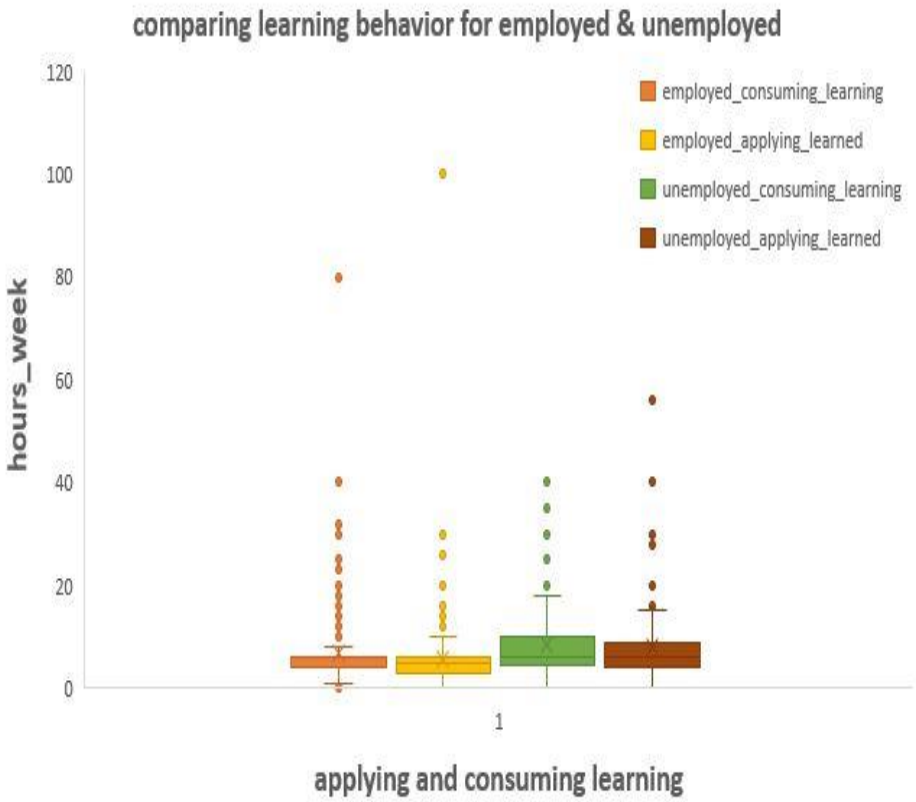
Also the unemployed student with nanodegree have **range (315)** is bigger than the other employed student **rang (117)**

That show us that unemployed student has outlier with extreme value than employed student

Moreover, if we look to their shapes we will found reflection to our data

That make Employed student with nanodegree group more concentrated around its mean value

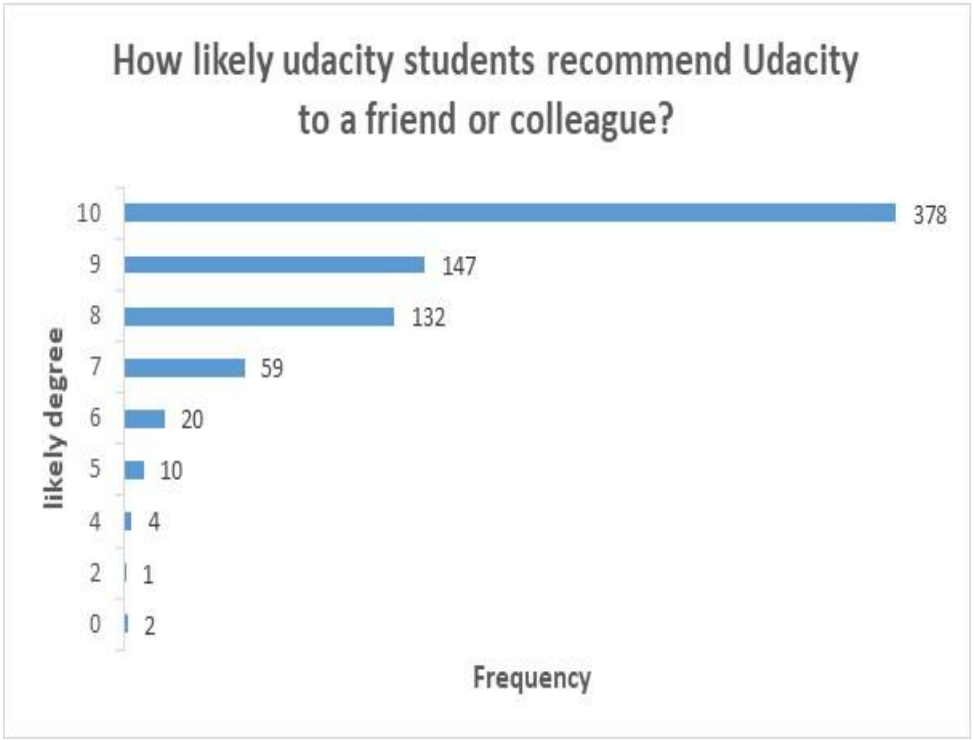
Does employment status affecting learning behavior?



summary static	employed learning		unemployed learning	
	consuming	applying	consuming	applying
Count(N)	620	620	133	133
Mean	6.8	5.6	8.3	7.97
Median	6	5	6	6
Mode	6	6	6	6
Standard Deviatio	6.3	5.9	7.7	8.2
Sample Variance	39.6	34.9	59	67.3
Range	80	100	40	56
Minimum	0	0	0	0
Maximum	80	100	40	56
Q1	4	3	4.5	4
Q2	6	5	6	6
Q3	6	6	10	9
IQR	2	3	5.5	5

In our data, value for **Mean is > the median**
For employed & unemployed group in both applying and consuming learning so our data shape is **skewed right**
IQR for Employed & unemployed consuming learning is (**2**, **5.5**)
Although they have same median, but different distribution
That mean unemployed group has more Variability in a data set than employed
We can say that unemployed learning behavior is more variability than employed

How likely students recommend Udacity to a friend or colleague?



likely degree	percentage
0	0.27%
2	0.13%
4	0.53%
5	1.33%
6	2.66%
7	7.84%
8	17.53%
9	19.52%
10	50.20%

If we look to result, **Mode** for the result is **10** it count **378** times from **753** the number of sample student with **50.20%**
We will see that more than **97%** of students likely to recommend Udacity to their friend or colleague