Original Question, What salary should be offered to a full-time data scientist to get top talent when looking at U.S. vs. global differences?

Alternative questions,

How does U.S. data science salaries compare to those of offshore markets?

Does experience level correlate to current salaries?

Does remote work affect salaries?

What are salaries for data scientist in the U.S. vs global, what is a strong salary range to offer?

In [12]:
```
import pandas as pd
import matplotlib.pyplot as plt
```

In [13]:
```
import os

os.getcwd()
```

Out[13]:
```
'C:\\Users\\William Gilet'
```

In [25]:
```
infile="C:\\Users\\William Gilet\\OneDrive - Merrimack College\\Documents\\R and Python Class\\Project 1\\Liam Gilet
```

In [26]:
```
salaries_roll=pd.read_csv(infile)
```

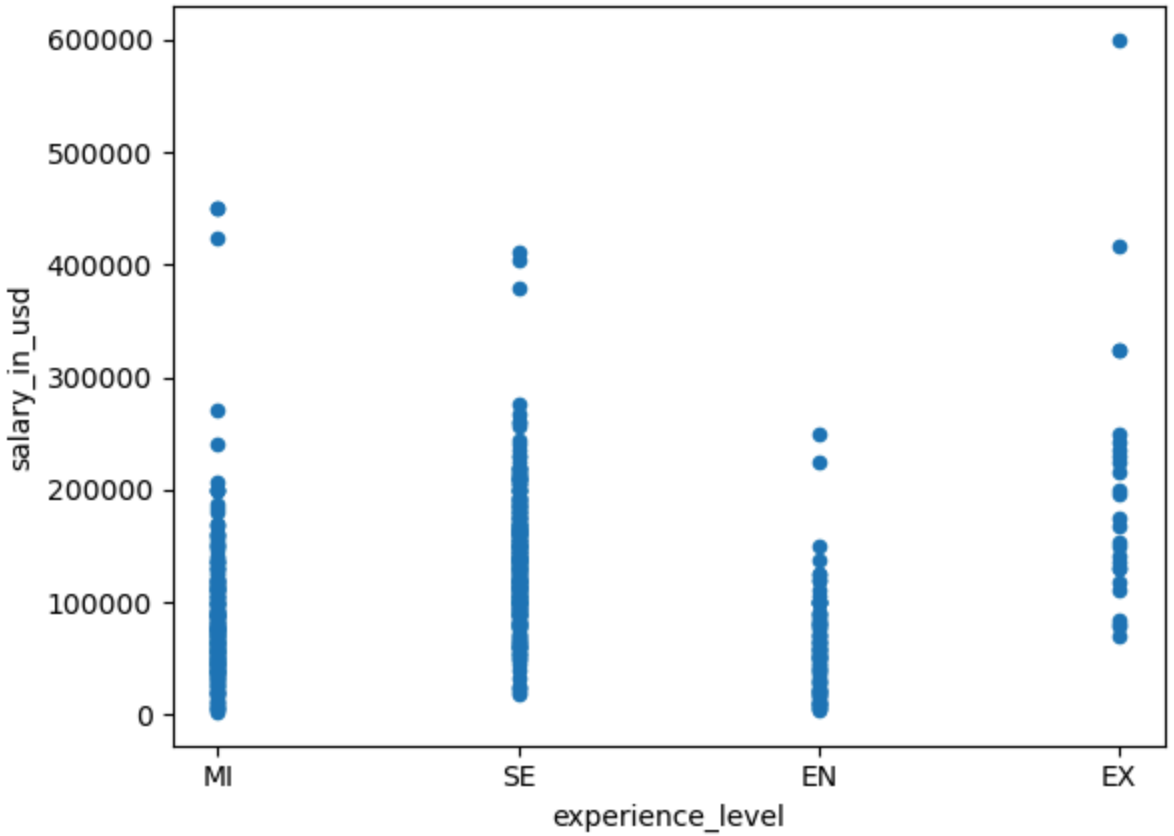
In [27]:
```
salaries_roll.head(10)
```

Out[27]:

	Unnamed: 0	work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_resid
0	0	2020	MI	FT	Data Scientist	70000	EUR	79833	
1	1	2020	SE	FT	Machine Learning Scientist	260000	USD	260000	
2	2	2020	SE	FT	Big Data Engineer	85000	GBP	109024	
3	3	2020	MI	FT	Product Data Analyst	20000	USD	20000	
4	4	2020	SE	FT	Machine Learning Engineer	150000	USD	150000	
5	5	2020	EN	FT	Data Analyst	72000	USD	72000	
6	6	2020	SE	FT	Lead Data Scientist	190000	USD	190000	
7	7	2020	MI	FT	Data Scientist	11000000	HUF	35735	
8	8	2020	MI	FT	Business Data Analyst	135000	USD	135000	
9	9	2020	SE	FT	Lead Data Engineer	125000	USD	125000	

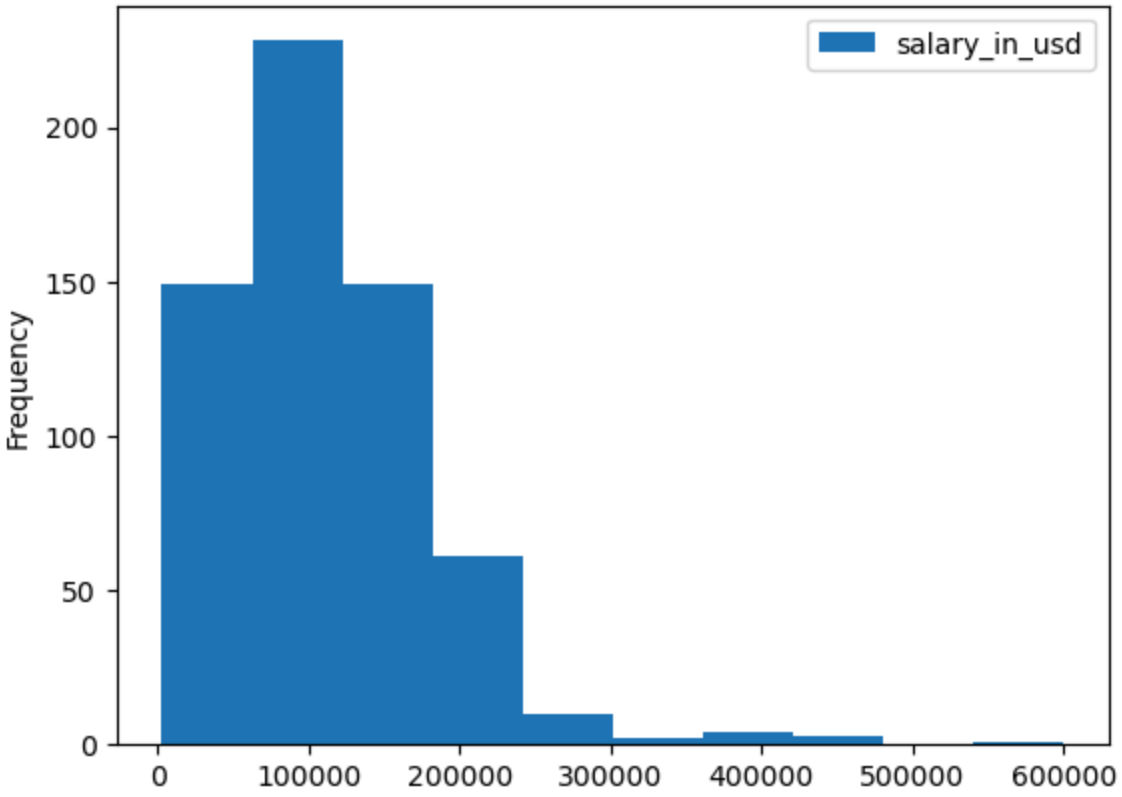
In [32]:
```
salaries_roll.plot.scatter(x="experience_level",y="salary_in_usd")
```

Out[32]: <Axes: xlabel='experience_level', ylabel='salary_in_usd'>



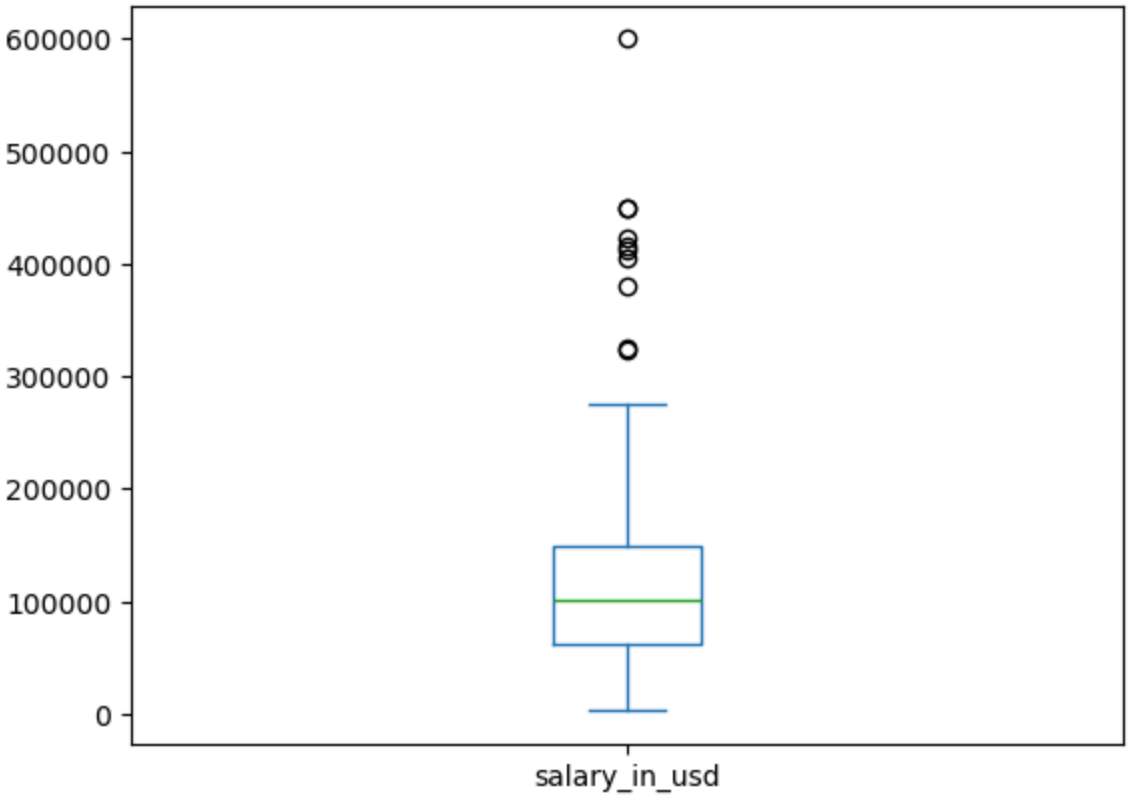
In [33]:
```
salaries_roll[["salary_in_usd"]].plot.hist()
```

Out[33]: <Axes: ylabel='Frequency'>



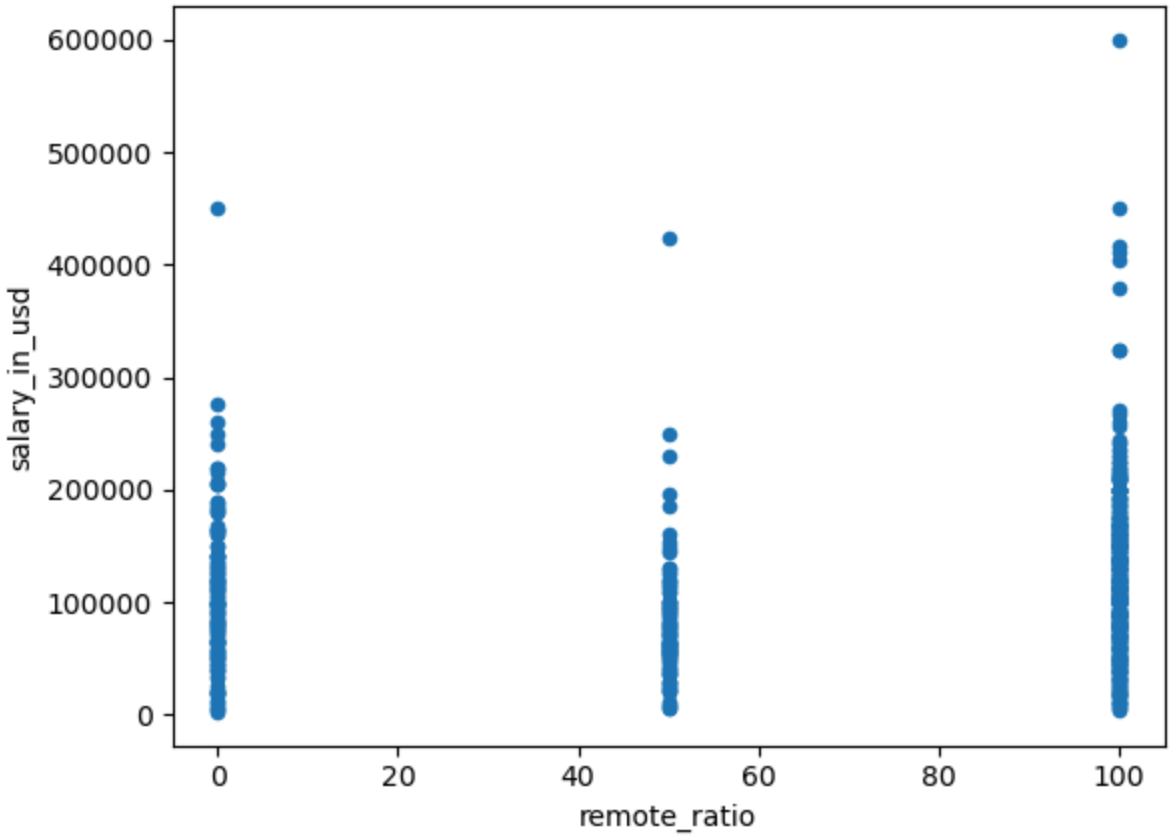
In [34]:
```
salaries_roll[["salary_in_usd"]].plot.box()
```

Out[34]: <Axes: >



In [37]:
```
salaries_roll.plot.scatter(x="remote_ratio",y="salary_in_usd")
```

Out[37]:
```
<Axes: xlabel='remote_ratio', ylabel='salary_in_usd'>
```



In [42]:
```
salaries_roll[["salary","salary_in_usd","job_title"]].groupby("job_title").mean()
```

Out[42]:

job_title	salary	salary_in_usd
3D Computer Vision Researcher	4.000000e+05	5409.000000
AI Scientist	2.905714e+05	66135.571429
Analytics Engineer	1.750000e+05	175000.000000
Applied Data Scientist	1.724000e+05	175655.000000
Applied Machine Learning Scientist	1.413500e+05	142068.750000
BI Data Analyst	1.902045e+06	74755.166667
Big Data Architect	1.250000e+05	99703.000000
Big Data Engineer	4.550000e+05	51974.000000
Business Data Analyst	3.550000e+05	76691.200000
Cloud Data Engineer	1.400000e+05	124647.000000
Computer Vision Engineer	8.350000e+04	44419.333333
Computer Vision Software Engineer	1.003333e+05	105248.666667
Data Analyst	9.660496e+04	92893.061856
Data Analytics Engineer	6.175000e+04	64799.250000
Data Analytics Lead	4.050000e+05	405000.000000
Data Analytics Manager	1.271343e+05	127134.285714
Data Architect	1.778739e+05	177873.909091
Data Engineer	1.792106e+05	112725.000000
Data Engineering Manager	1.197998e+05	123227.200000
Data Science Consultant	1.227143e+05	69420.714286
Data Science Engineer	8.450000e+04	75803.333333

job_title	salary	salary_in_usd
Data Science Manager	1.062599e+06	158328.500000
Data Scientist	5.083472e+05	108187.832168
Data Specialist	1.650000e+05	165000.000000
Director of Data Engineering	1.412500e+05	156738.000000
Director of Data Science	1.932857e+05	195074.000000
ETL Developer	5.000000e+04	54957.000000
Finance Data Analyst	4.500000e+04	61896.000000
Financial Data Analyst	2.750000e+05	275000.000000
Head of Data	1.564000e+05	160162.600000
Head of Data Science	1.467188e+05	146718.750000
Head of Machine Learning	6.000000e+06	79039.000000
Lead Data Analyst	5.690000e+05	92203.000000
Lead Data Engineer	1.403333e+05	139724.500000
Lead Data Scientist	1.101667e+06	115190.000000
Lead Machine Learning Engineer	8.000000e+04	87932.000000
ML Engineer	2.676667e+06	117504.000000
Machine Learning Developer	1.000000e+05	85860.666667
Machine Learning Engineer	2.727179e+05	104880.146341
Machine Learning Infrastructure Engineer	9.733333e+04	101145.000000
Machine Learning Manager	1.570000e+05	117104.000000
Machine Learning Scientist	1.584125e+05	158412.500000

job_title	salary	salary_in_usd
Marketing Data Analyst	7.500000e+04	88654.000000
NLP Engineer	2.400000e+05	37236.000000
Principal Data Analyst	1.225000e+05	122500.000000
Principal Data Engineer	3.283333e+05	328333.333333
Principal Data Scientist	2.067143e+05	215242.428571
Product Data Analyst	2.350000e+05	13036.000000
Research Scientist	1.104937e+05	109019.500000
Staff Data Scientist	1.050000e+05	105000.000000

In [44]:
```
salaries_roll[["salary","salary_in_usd","experience_level"]].groupby("experience_level").mean()
```

Out[44]:

experience_level	salary	salary_in_usd
EN	264622.454545	61643.318182
EX	427072.115385	199392.038462
MI	480617.690141	87996.056338
SE	213949.353571	138617.292857

In [45]:
```
salaries_roll[["salary","salary_in_usd","remote_ratio"]].groupby("remote_ratio").mean()
```

Out[45]:

remote_ratio	salary	salary_in_usd
0	218147.842520	106354.622047
50	708018.171717	80823.030303
100	259499.902887	122457.454068

In [48]:
```
salaries_roll[["salary","salary_in_usd","company_location"]].groupby("company_location").mean()
```

Out[48]:

company_location	salary	salary_in_usd
AE	1.000000e+05	100000.000000
AS	1.335000e+06	18053.000000
AT	6.400000e+04	72920.750000
AU	1.303333e+05	108042.666667
BE	7.250000e+04	85699.000000
BR	6.520000e+04	18602.666667
CA	1.153067e+05	99823.733333
CH	2.750000e+05	64114.000000
CL	3.040000e+07	40038.000000
CN	1.995000e+05	71665.500000
CO	2.184400e+04	21844.000000
CZ	4.949950e+04	50937.000000
DE	7.128996e+04	81887.214286
DK	1.850000e+05	54386.333333
DZ	1.000000e+05	100000.000000
EE	3.000000e+04	32974.000000
ES	4.738286e+04	53060.142857
FR	5.688133e+04	63970.666667
GB	6.229481e+04	81583.042553
GR	4.736364e+04	52293.090909
HN	2.000000e+04	20000.000000

company_location	salary	salary_in_usd
HR	4.000000e+04	45618.000000
HU	1.100000e+07	35735.000000
IE	6.500000e+04	71444.000000
IL	1.600000e+05	119059.000000
IN	2.065208e+06	28581.750000
IQ	1.000000e+05	100000.000000
IR	4.000000e+03	4000.000000
IT	3.110000e+04	36366.500000
JP	3.408667e+06	114127.333333
KE	9.272000e+03	9272.000000
LU	3.833333e+04	43942.666667
MD	1.800000e+04	18000.000000
MT	2.400000e+04	28369.000000
MX	2.793333e+05	32123.333333
MY	4.000000e+04	40000.000000
NG	3.000000e+04	30000.000000
NL	4.910000e+04	54945.750000
NZ	1.250000e+05	125000.000000
PK	1.333333e+04	13333.333333
PL	1.425000e+05	66082.500000
PT	4.210000e+04	47793.750000

company_location	salary	salary_in_usd
RO	6.000000e+04	60000.000000
RU	1.575000e+05	157500.000000
SG	1.200000e+05	89294.000000
SI	5.400000e+04	63831.000000
TR	1.793333e+05	20096.666667
UA	1.340000e+04	13400.000000
US	1.877160e+05	144055.261972
VN	4.000000e+03	4000.000000

In [51]:
```
# Summary

# The data examined and used was closely related to all different glboal salaries for Data Scientist's in comparison
```

In [ ]:
```

```