

# Matplotlib Tutorial (Part 5): Filling Area on Line Plots

Source: [https://www.youtube.com/watch?v=x0Uguu7gqgk&t=31s&ab\\_channel=CoreySchafer](https://www.youtube.com/watch?v=x0Uguu7gqgk&t=31s&ab_channel=CoreySchafer)

In [9]:

```
import pandas as pd
from matplotlib import pyplot as plt

data = pd.read_csv('data5.txt')
ages = data['Age']
dev_salaries = data['All_Devs']
py_salaries = data['Python']
js_salaries = data['JavaScript']

plt.plot(ages, dev_salaries, color='#444444',
         linestyle='--', label='All Devs')

plt.plot(ages, py_salaries, label='Python')

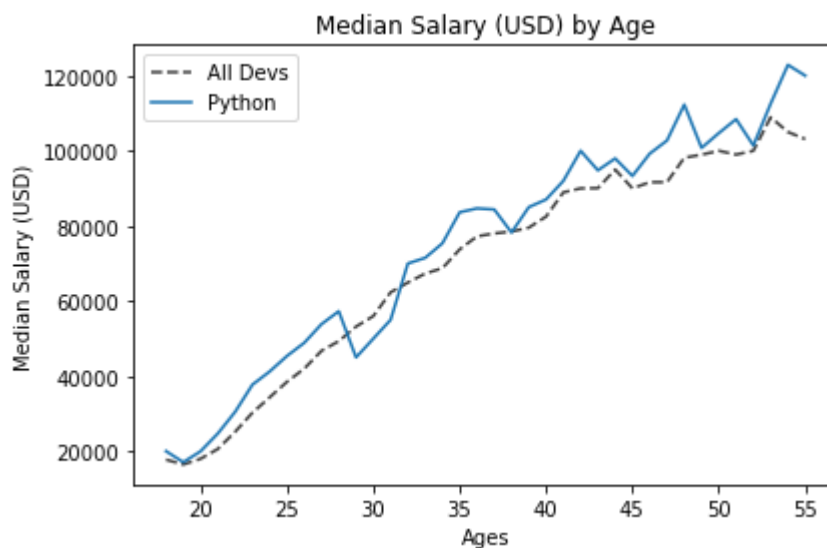
# overall_median = 57287

plt.legend()

plt.title('Median Salary (USD) by Age')
plt.xlabel('Ages')
plt.ylabel('Median Salary (USD)')

plt.tight_layout()

plt.show()
```



Add fill in information

```
In [10]: import pandas as pd
from matplotlib import pyplot as plt

data = pd.read_csv('data5.txt')
ages = data['Age']
dev_salaries = data['All_Devs']
py_salaries = data['Python']
js_salaries = data['JavaScript']

plt.plot(ages, dev_salaries, color='#444444',
         linestyle='--', label='All Devs')

plt.plot(ages, py_salaries, label='Python')

# overall_median = 57287

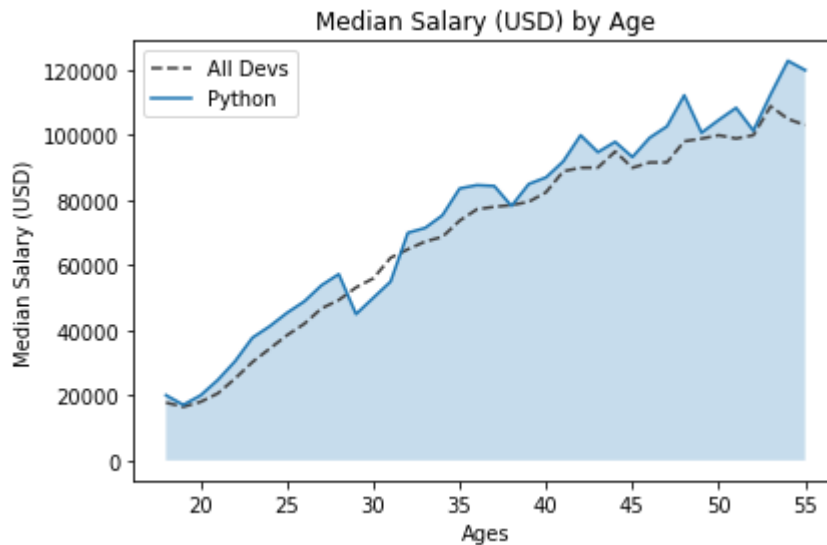
plt.legend()

plt.fill_between(ages, py_salaries, alpha=0.25) #this must be added

plt.title('Median Salary (USD) by Age')
plt.xlabel('Ages')
plt.ylabel('Median Salary (USD)')

plt.tight_layout()

plt.show()
```



Using the median variable

```
In [11]: import pandas as pd
from matplotlib import pyplot as plt

data = pd.read_csv('data5.txt')
ages = data['Age']
dev_salaries = data['All_Devs']
py_salaries = data['Python']
js_salaries = data['JavaScript']

plt.plot(ages, dev_salaries, color='#444444',
         linestyle='--', label='All Devs')

plt.plot(ages, py_salaries, label='Python')

overall_median = 57287

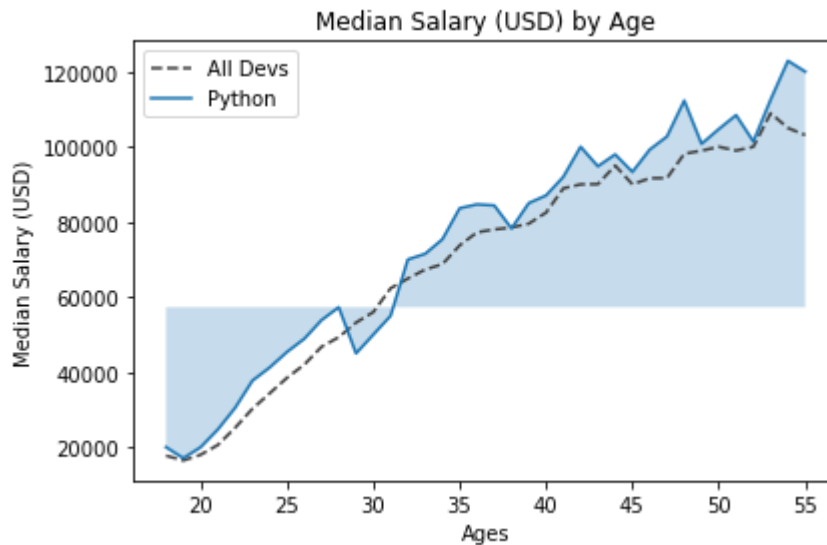
plt.legend()

plt.fill_between(ages, py_salaries, overall_median, alpha=0.25) #this must be

plt.title('Median Salary (USD) by Age')
plt.xlabel('Ages')
plt.ylabel('Median Salary (USD)')

plt.tight_layout()

plt.show()
```



Add conditionals

```
In [5]: import pandas as pd
from matplotlib import pyplot as plt

data = pd.read_csv('data5.txt')
ages = data['Age']
dev_salaries = data['All_Devs']
py_salaries = data['Python']
js_salaries = data['JavaScript']

plt.plot(ages, dev_salaries, color='#444444',
         linestyle='--', label='All Devs')

plt.plot(ages, py_salaries, label='Python')

overall_median = 57287

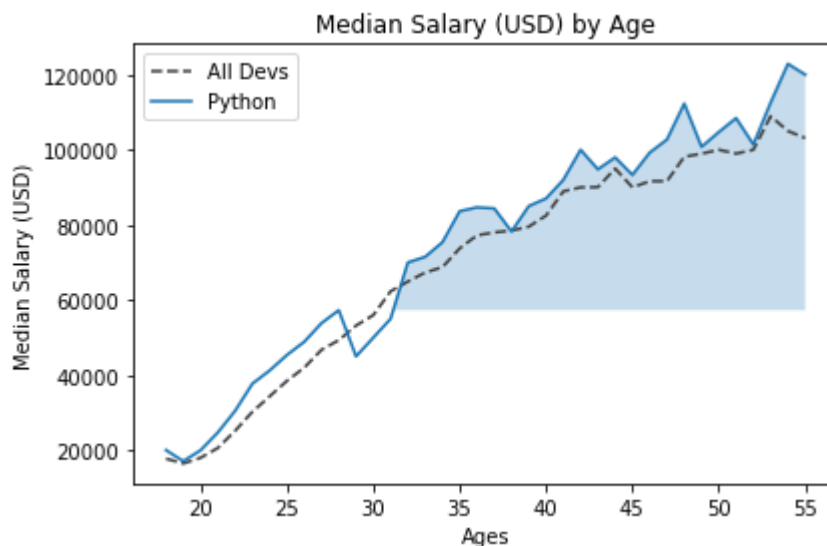
plt.legend()

plt.fill_between(ages, py_salaries, overall_median,
                 where = (py_salaries > overall_median),
                 interpolate=True, alpha=0.25) #conditionals

plt.title('Median Salary (USD) by Age')
plt.xlabel('Ages')
plt.ylabel('Median Salary (USD)')

plt.tight_layout()

plt.show()
```



set different conditionals for values below the median

```
In [6]: import pandas as pd
from matplotlib import pyplot as plt

data = pd.read_csv('data5.txt')
ages = data['Age']
dev_salaries = data['All_Devs']
py_salaries = data['Python']
js_salaries = data['JavaScript']

plt.plot(ages, dev_salaries, color='#444444',
         linestyle='--', label='All Devs')

plt.plot(ages, py_salaries, label='Python')

overall_median = 57287

plt.legend()

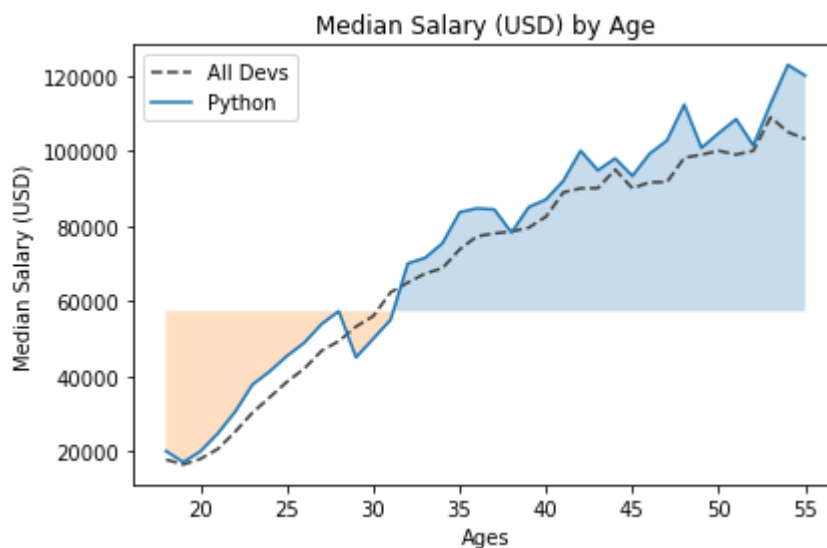
plt.fill_between(ages, py_salaries, overall_median,
                 where = (py_salaries > overall_median),
                 interpolate=True, alpha=0.25) #conditionals

plt.fill_between(ages, py_salaries, overall_median,
                 where = (py_salaries <= overall_median),
                 interpolate=True, alpha=0.25) #conditionals

plt.title('Median Salary (USD) by Age')
plt.xlabel('Ages')
plt.ylabel('Median Salary (USD)')

plt.tight_layout()

plt.show()
```



change color

```
In [7]: import pandas as pd
from matplotlib import pyplot as plt

data = pd.read_csv('data5.txt')
ages = data['Age']
dev_salaries = data['All_Devs']
py_salaries = data['Python']
js_salaries = data['JavaScript']

plt.plot(ages, dev_salaries, color='#444444',
         linestyle='--', label='All Devs')

plt.plot(ages, py_salaries, label='Python')

overall_median = 57287

plt.legend()

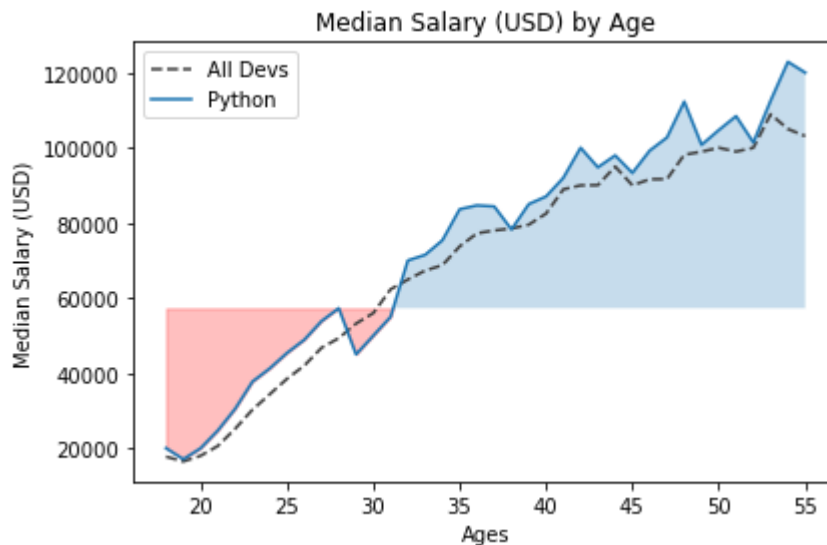
plt.fill_between(ages, py_salaries, overall_median,
                 where = (py_salaries > overall_median),
                 interpolate=True, alpha=0.25) #conditionals

plt.fill_between(ages, py_salaries, overall_median,
                 where = (py_salaries <= overall_median),
                 interpolate=True, color='red', alpha=0.25) #conditionals

plt.title('Median Salary (USD) by Age')
plt.xlabel('Ages')
plt.ylabel('Median Salary (USD)')

plt.tight_layout()

plt.show()
```



Final code

# Using other values

## Add labels in the legends

In [8]:

```
import pandas as pd
from matplotlib import pyplot as plt

data = pd.read_csv('data5.txt')
ages = data['Age']
dev_salaries = data['All_Devs']
py_salaries = data['Python']
js_salaries = data['JavaScript']

plt.plot(ages, dev_salaries, color='#444444',
         linestyle='--', label='All Devs')

plt.plot(ages, py_salaries, label='Python')

overall_median = 57287

plt.fill_between(ages, py_salaries, dev_salaries,
                 where=(py_salaries > dev_salaries),
                 interpolate=True, alpha=0.25, label='Above Avg')

plt.fill_between(ages, py_salaries, dev_salaries,
                 where=(py_salaries <= dev_salaries),
                 interpolate=True, color='red', alpha=0.25, label='Below Avg')

plt.legend()

plt.title('Median Salary (USD) by Age')
plt.xlabel('Ages')
plt.ylabel('Median Salary (USD)')

plt.tight_layout()

plt.show()
```

