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3099704: AI for Digital Health

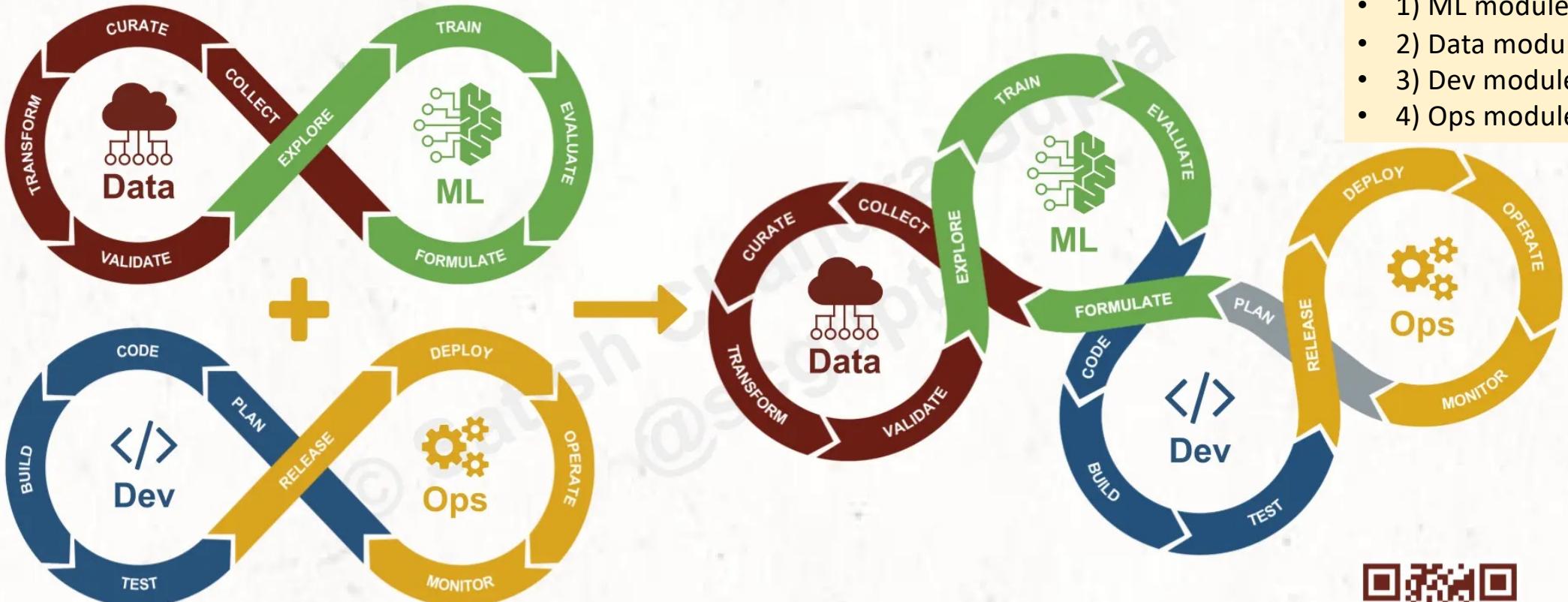


MLOps

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MLOps = DataML + DevOps

ml4devs.com/mlops-lifecycle 



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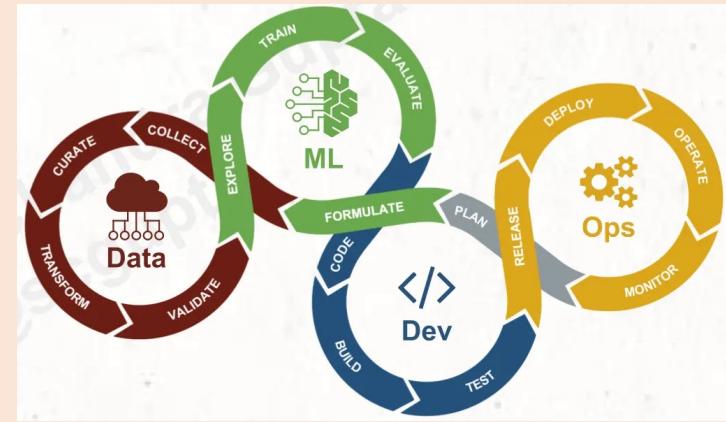
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<https://www.ml4devs.com/images/illustrations/ml-lifecycle-fusing-model-and-software-development.webp>

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Dev Module



Do you think that user (doctors & patients) can use this code to get the prediction result? **NO!!!**

CO 2_Linear-Regression-v2.ipynb

File Edit View Insert Runtime Tools Help

+ Code + Text Copy to Drive

```
[ ] 1 coeff_df = pd.DataFrame(lm.coef_, lm.feature_names_in_, columns=['Coefficient'])  
2 coeff_df
```

Does this make sense? Probably not because I made up this data. If you want real data to repeat this sort of analysis, check out the [boston dataset](#).

```
from sklearn.datasets import load_boston  
boston = load_boston()  
print(boston.DESCR)  
boston_df = boston.data
```

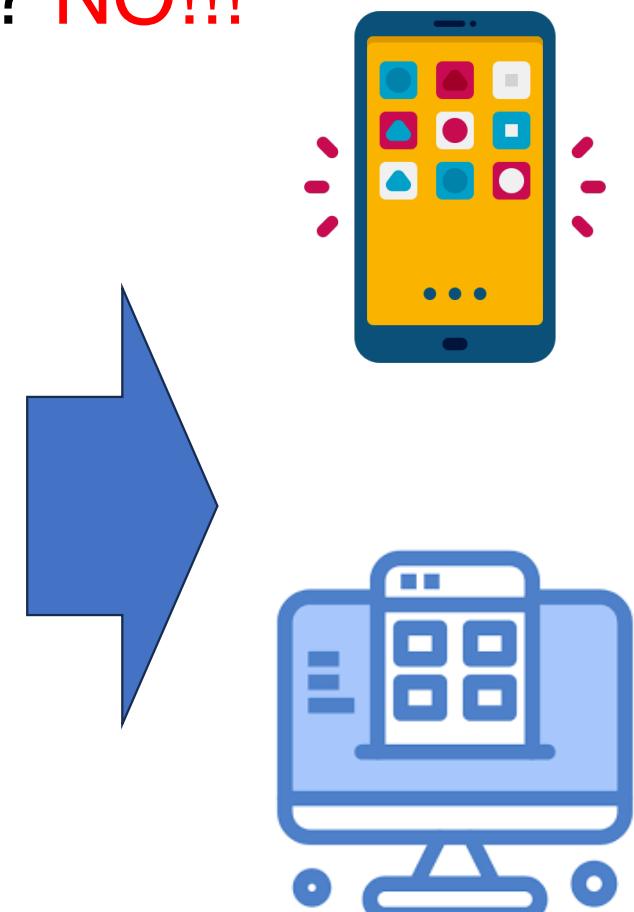
▼ Predictions from our Model

Let's grab predictions off our test set and see how well it did!

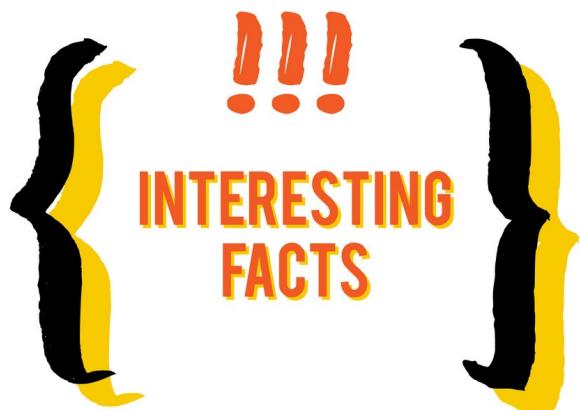
```
[ ] 1 predictions = lm.predict(X_test)  
[ ] 1 plt.scatter(y_test,predictions)
```

Residual Histogram

```
[ ] 1 sns.distplot(y_test-predictions,bins=50);
```



Interesting facts



- More than 50% of AI projects were **FAILED** since they didn't plan about the deployment.

For the AI project, finish building the model is only 50% of the work.

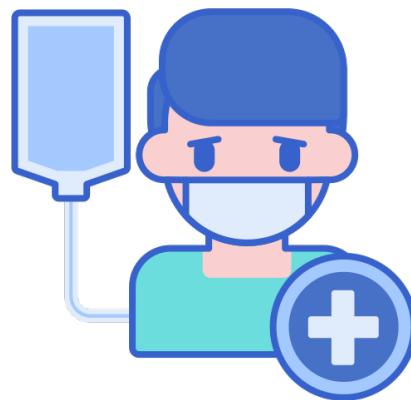
The remaining work is about the deployment as a touchpoint to the target user.



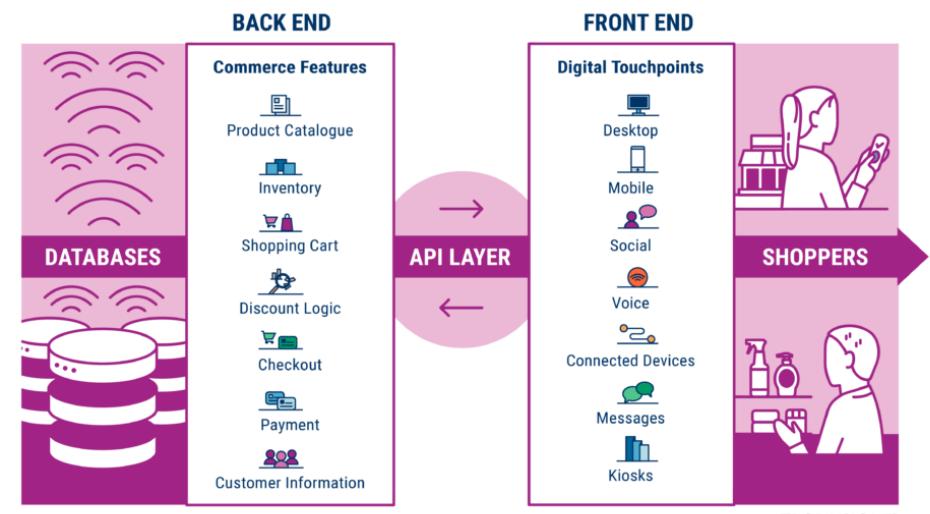
Guideline for the dev module

- More than 50% of AI projects were **FAILED** since they didn't plan about the deployment.
- 1) Understand who is the target user first?
- 2) Action: Knowledge (Model) without action (Software) is meaningless. (API & Integration)
- 3) User Touch Point & Journey: simple & easy-to-use
- 4) Don't forget about the admin tasks

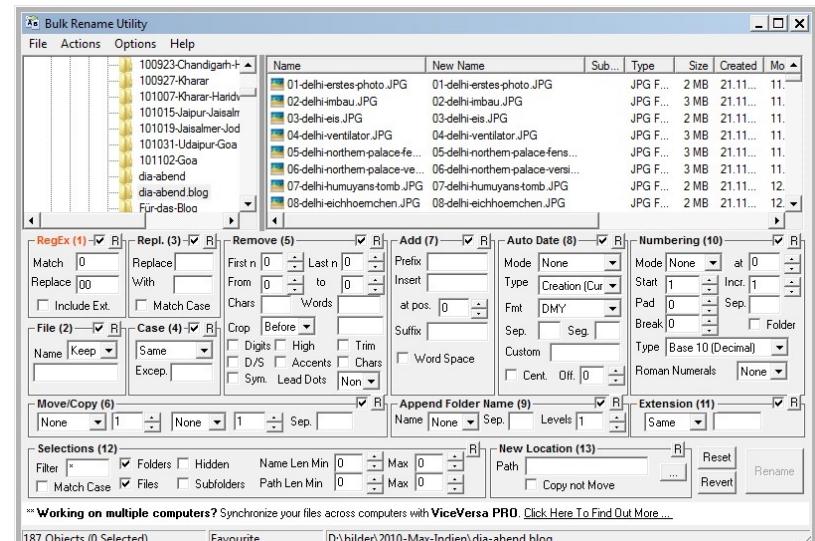
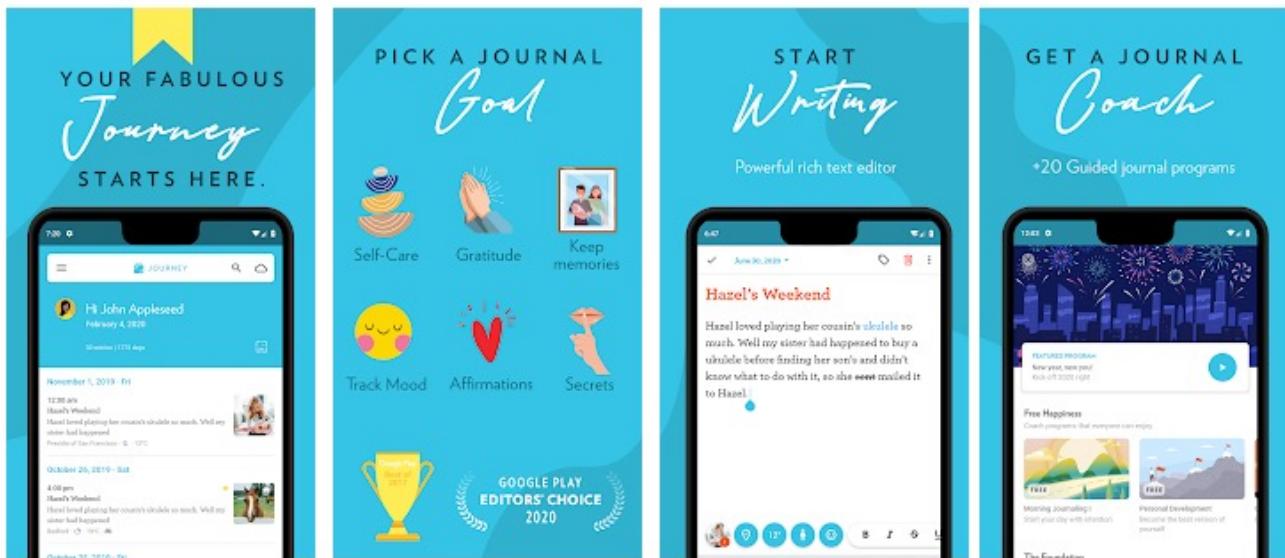
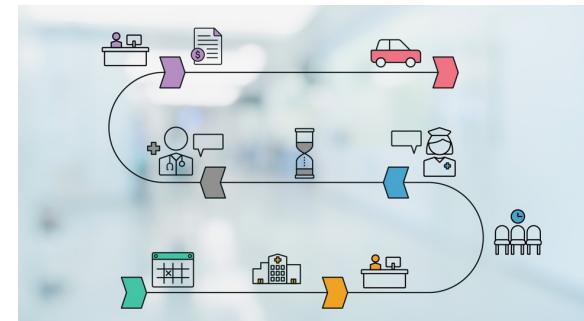
1) Understand who is **the target user** first?
E.g., patients, healthcare staff, or caregivers



2) Action: Knowledge (Model) without action (Software) is meaningless. (API & Integration)



3) User Touch Point & Journey: simple & easy-to-use



4) Don't forget about the admin tasks

Always take administrative works into account

Select a Campaign Starter Kit

Filter By Campaign Type: All

- All
- Build your own
- Renewal
- WinBack
- Event
- Welcome
- Fundraising

Blank Campaign The blank campaign presents an empty canvas ready for your marketing automation artistry.	Basic Renewal Campaign Standard renewal beginning at 90 days prior to expiration.	Win Back Campaign - 3-6 Months Lapsed The goal of the Win Back campaign is to reach out to prior members to generate interest and encourage them to rejoin your organization.
Advanced Renewal Campaign Advanced renewal beginning at 120 days prior to expiration, targeting inactive and active members.	Small/Mid Size Event Promotion Campaign Promote webinars, local chapter events, and professional development courses. 3 messages over time.	Large Event Promotion: Open Registration/Last Chance 7 Messages to promote and drive event registrations.

xtreme

Dashboard

Sales Summary
Overview of Latest Month

Top Selling Products
Overview of Top Selling Items

Products	License	Support Agent	Technology	Tickets	Sales	Earnings
EA Elite Admin	Single Use	John Doe	Angular	46	356	\$2850.06
MA Monster Admin	Single Use	Vanessa Fern	React	46	356	\$2850.06
MP Material Pro Admin	Single Use	John Doe	React	46	356	\$2850.06
AA Ample Admin	Single Use	John Doe	React	46	356	\$2850.06

Feeds

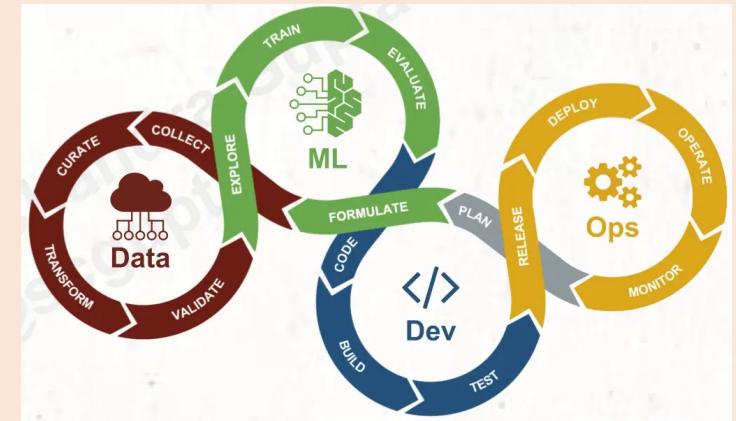
- You have 4 pending tasks. Last Now
- Server #1 overloaded. 2 Hours ago
- New order received. 31 May
- New user registered. 30 May



Guideline for the dev module (recap)

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Ops Module





Guideline for the ops module

- MLOps (Ops = Operations)
 - Release (versioning), configure, monitor
-
- 1) Monitoring: operation and performance
 - 2) Model is not stationary and always needed to be retrained.
 - 3) BI Dashboard can help to summarize the collected data.

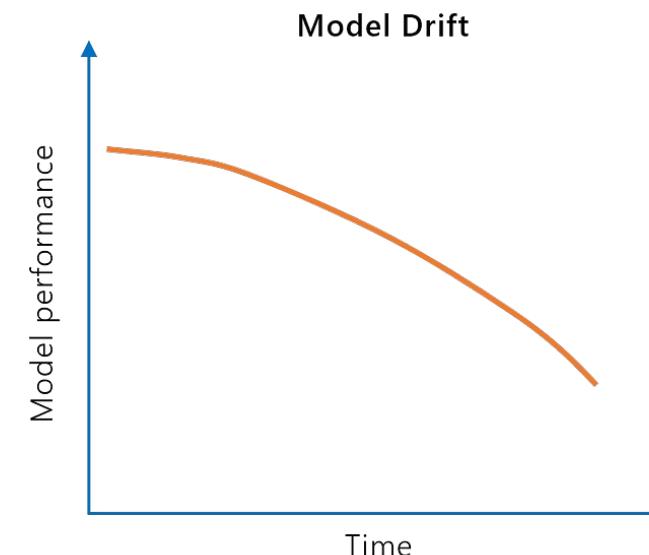
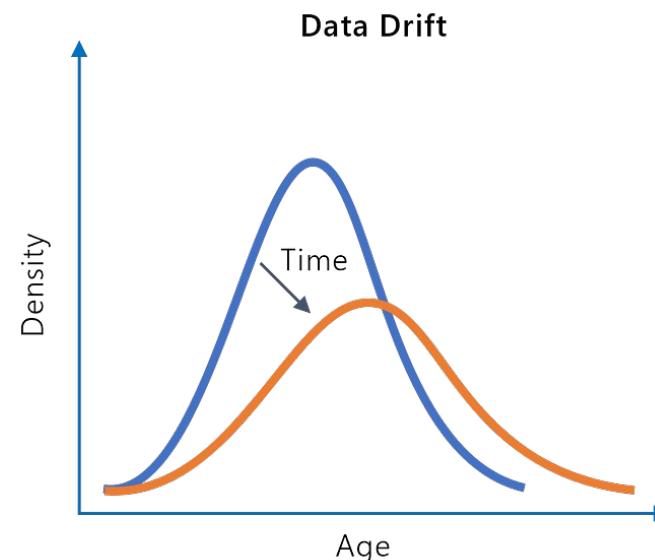


1) Monitoring

- Operation monitoring



- Performance monitoring



2) Model is not stationary and always needed to be retrained.

Patient behavior can change over time.



3) BI Dashboard can help to summarize the collected data.

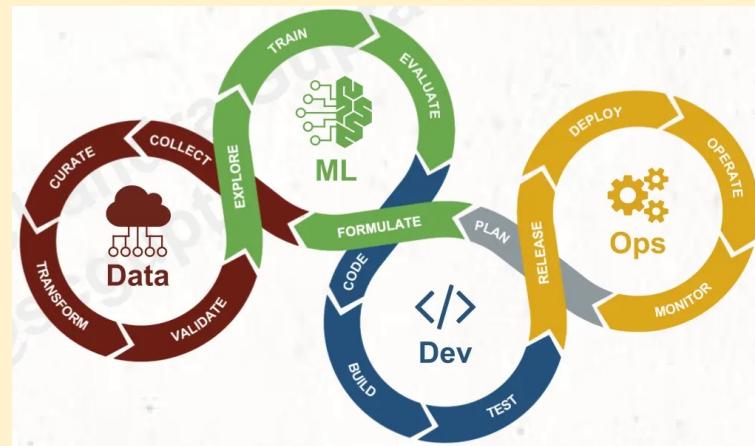




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Thank you & Any questions



- 1) ML module
- 2) Data module
- 3) Dev module
- 4) Ops module