천재교육

머신러닝 (Machine Learning) 기초 및 실습

K - 디지털 아카데미

머신러닝 교육과정 강의 일정

1일차 > 머신러닝

- > 머신러닝의 개요
- > [실습] 데이터 분석의 시작 Numpy, Pandas 활용하기

2일차 > Classification (분류)

- > 분류를 평가하는 지표 알아보기
- > 분류 알고리즘 (결정트리, 앙상블, 랜덤포레스트 등) 익히기
- > [실습] 분류를 통한 밀크T 만료및탈퇴회원 예측(이탈 회원 예측)

3일차 > Regression (회귀)

- > 회귀와 경사 하강법
- > 로지스틱 회귀와 소프트맥스 회귀
- > [실습] 로지스틱 회귀를 통한 문항별 정오답 예측

4일차 > 차원 축소와 Clustering(군집화)

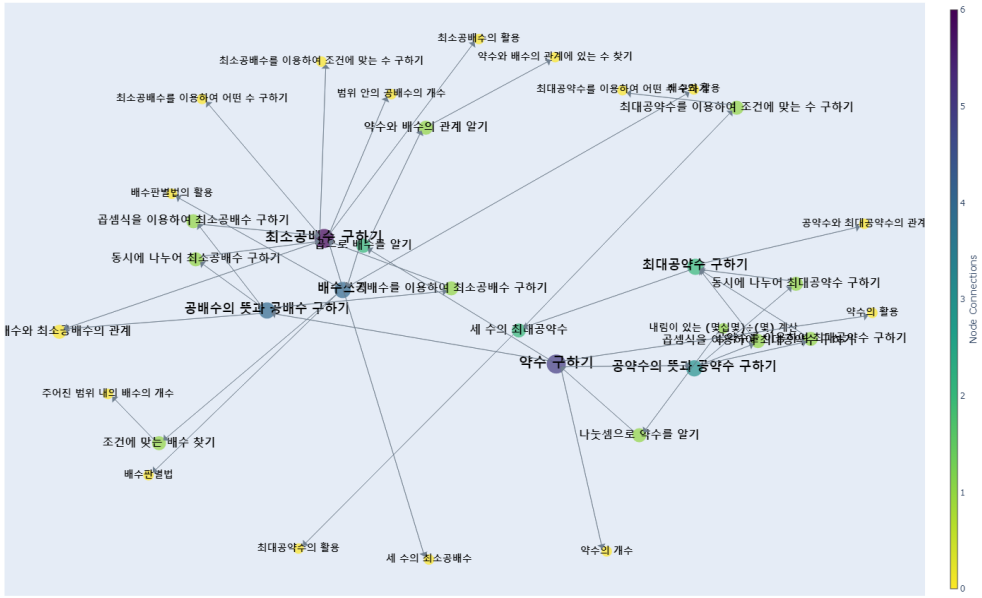
- > PCA, LDA
- > K-means, DBSCAN 등 다양한 클러스터링 기법 알아보기
- > [실습] 밀크T중학 회원수준 군집화(GMM)

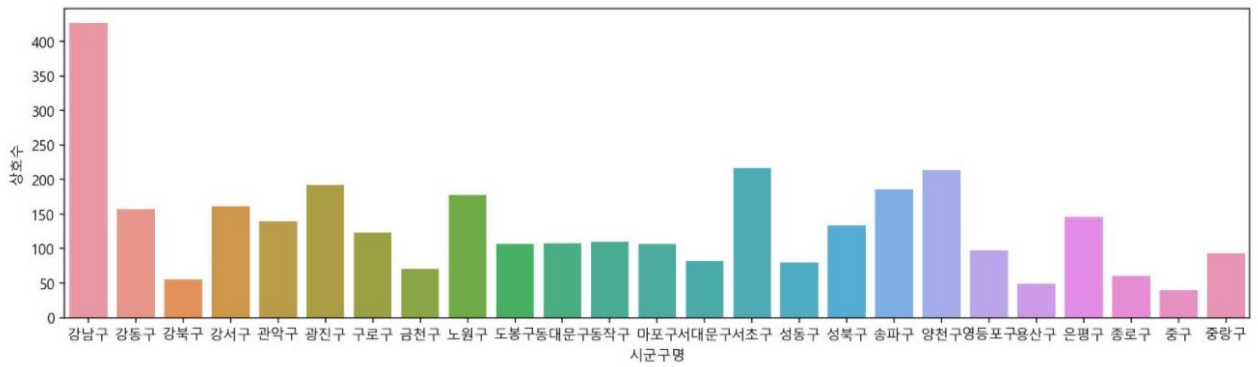
5일차 > 데이터 시각화와 최종 프로젝트

- > 데이터 시각화
- > 최종 프로젝트

데이터 시각화

데이터 시각화란,
데이터 분석 결과를 쉽게 이해할 수 있도록 시각적으로 표현하고 전달되는 과정 (위키피디아)

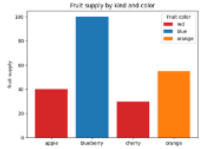




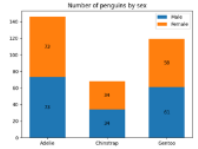
데이터 시각화 : matplotlib

https://matplotlib.org/stable/index.html

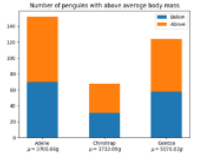
Lines, bars and markers



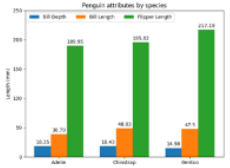
Bar color demo



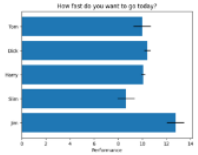
Bar Label Demo



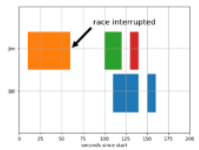
Stacked bar chart



Grouped bar chart with labels

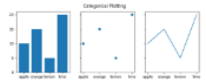


Horizontal bar chart

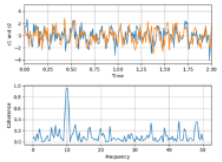


Broken Barh

CapStyle

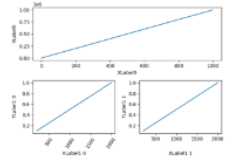


Plotting categorical variables

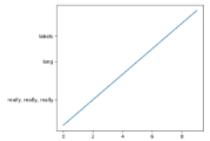


Plotting the coherence of two signals

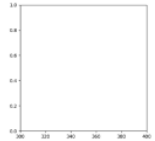
Subplots, axes and figures



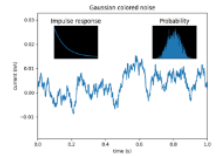
Aligning Labels



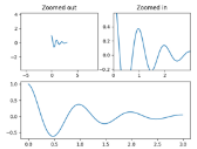
Programmatically controlling subplot adjustment



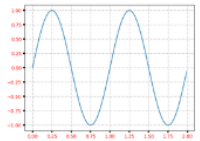
Axes box aspect



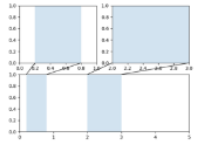
Axes Demo



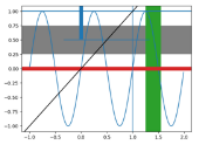
Controlling view limits using margins and sticky_edges



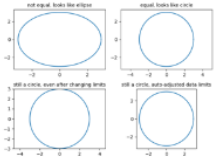
Axes Props



Axes Zoom Effect



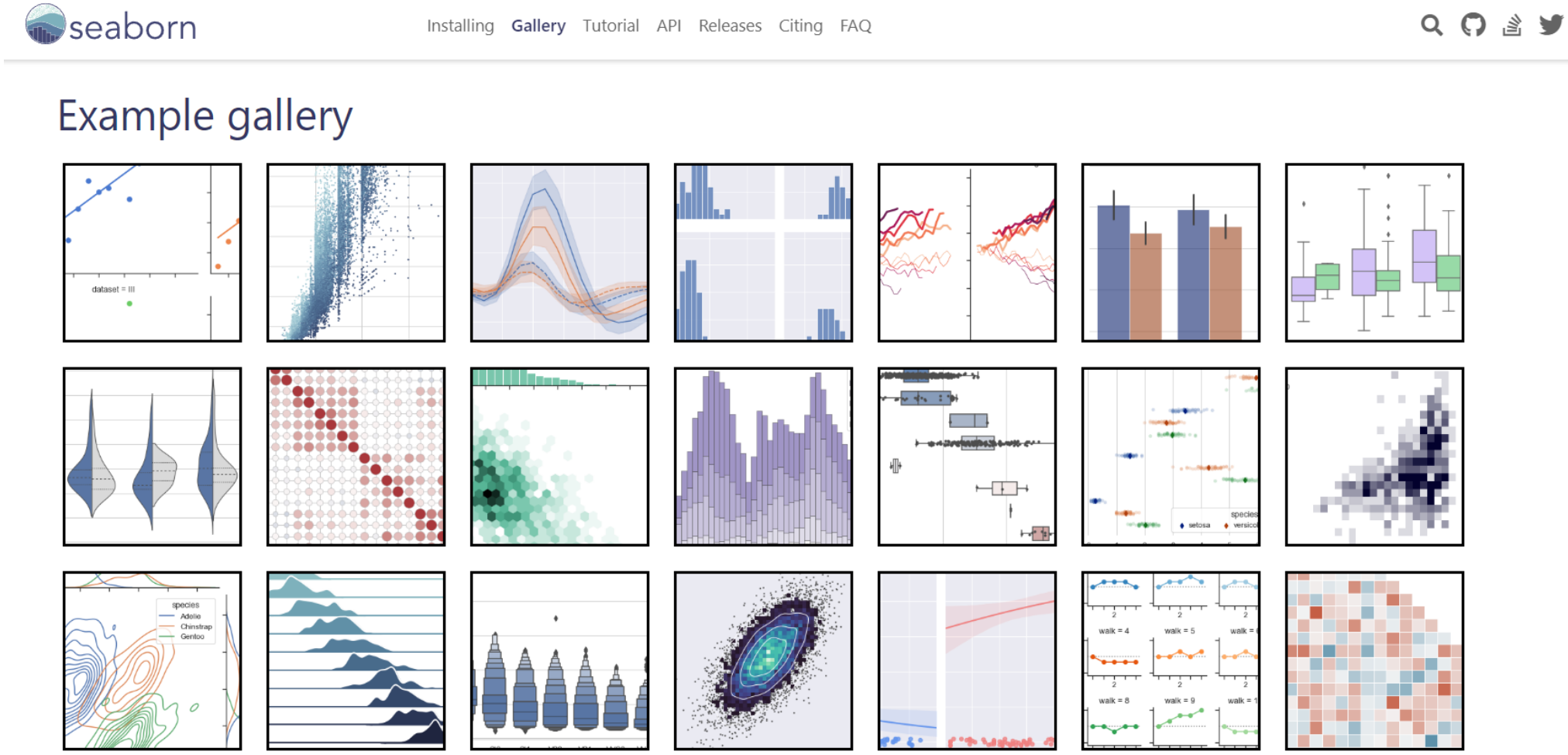
axhspan Demo



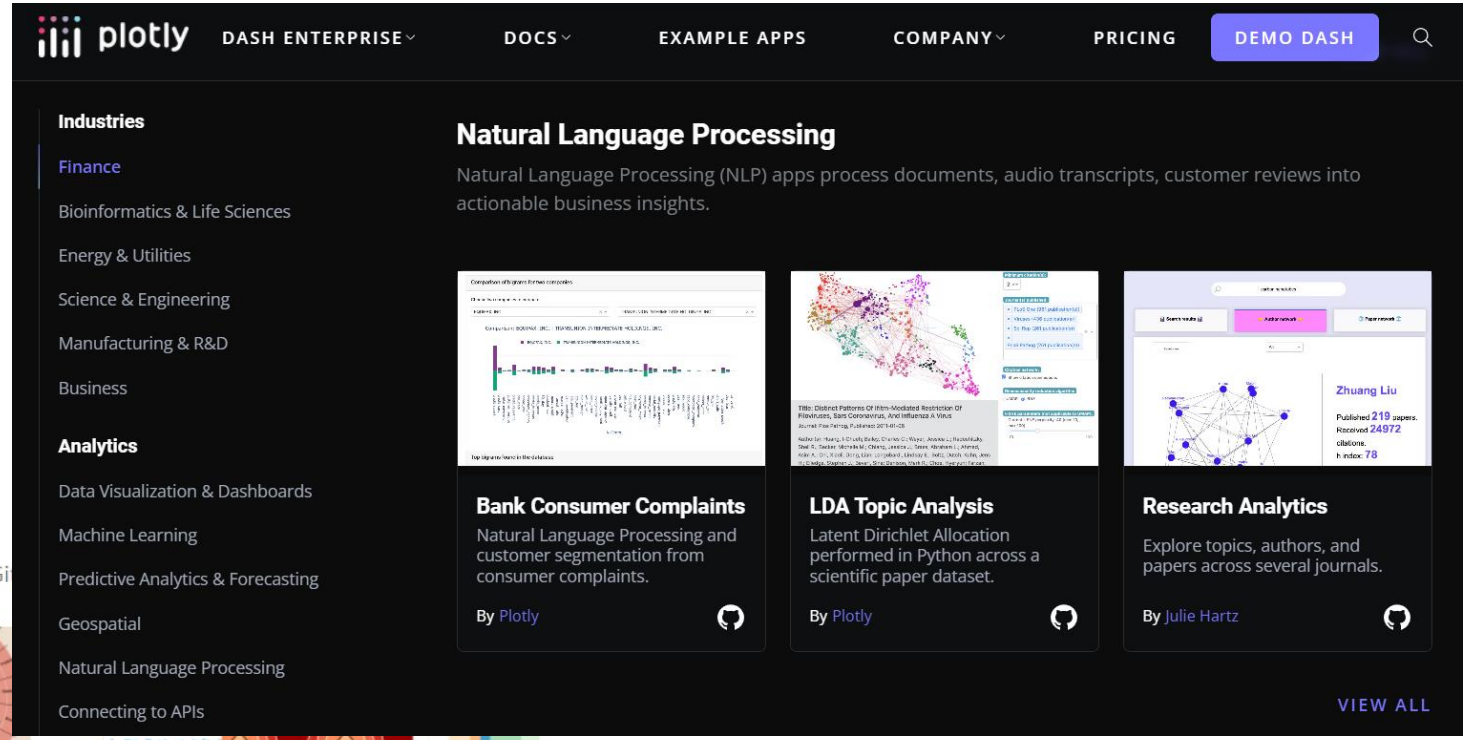
Equal axis aspect ratio

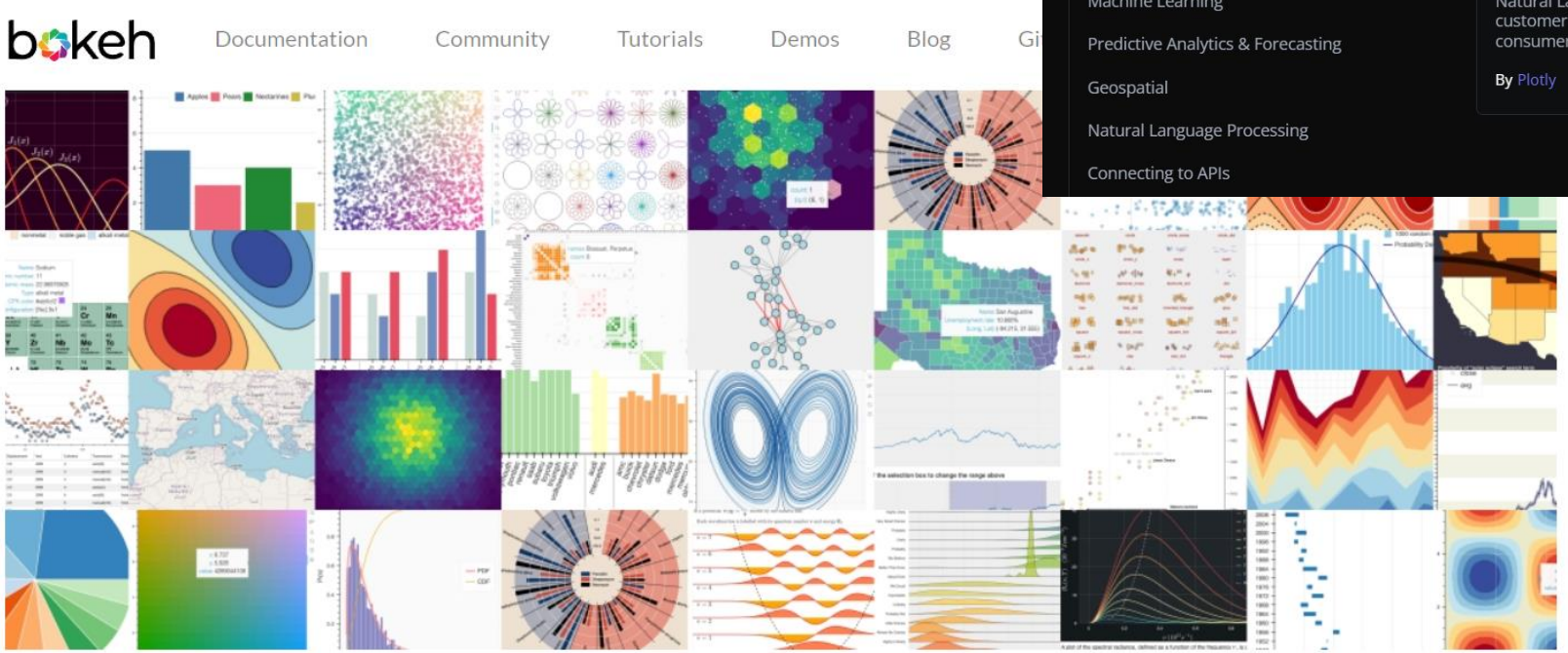
데이터 시각화 : seaborn

https://seaborn.pydata.org/examples/index.html



데이터 시각화 : 그 외





데이터 시각화 튜토리얼

Matplotlib Tutorial

https://wikidocs.net/book/5011

Seaborn Tutorial

https://wikidocs.net/137245

[Matplotlib] 마커 지정하기

marker	symbol	description
"."	•	point
","	·	pixel
"o"	●	circle
"v"	▼	triangle_down
"^"	▲	triangle_up
"<"	◀	triangle_left
">"	▶	triangle_right
"1"	⊤	tri_down
"2"	⊥	tri_up
"3"	⊣	tri_left
"4"	⊢	tri_right
"8"	●	octagon
"s"	■	square
"p"	⬟	pentagon
"P"	✚	plus (filled)
"*"	★	star
"h"	⬢	hexagon1
"H"	⬢	hexagon2
"+"	+	plus
"x"	×	x
"X"	✖	x (filled)
"D"	◆	diamond
"d"	⧫	thin_diamond
"|"	|	vline
"_"	–	hline
0 (TICKLEFT)	–	tickleft
1 (TICKRIGHT)	–	tickright
2 (TICKUP)	|	tickup
3 (TICKDOWN)	|	tickdown
4 (CARETLEFT)	◀	caretleft
5 (CARETRIGHT)	▶	caretright
6 (CARETUP)	▲	caretup
7 (CARETDOWN)	▼	caretdown
8 (CARETLEFTBASE)	◀	caretleft (centered at base)
9 (CARETRIGHTBASE)	▶	caretright (centered at base)
10 (CARETUPBASE)	▲	caretup (centered at base)
11 (CARETDOWNBASE)	▼	caretdown (centered at base)
"None", " " or ""		nothing
'$...$'	*f*	Render the string using mathtext. E.g "f" for marker showing the letter f.

[Matplotlib] 색상 지정하기

감사합니다