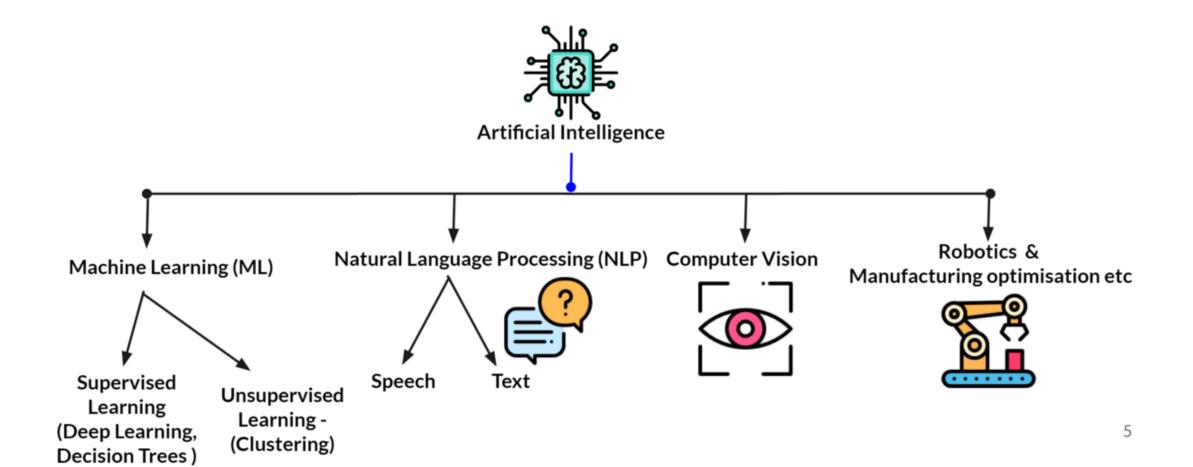
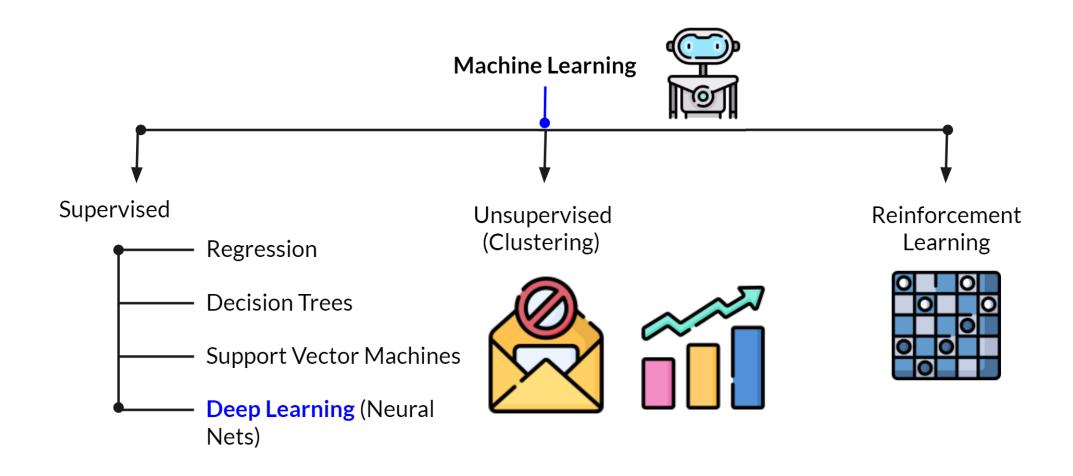
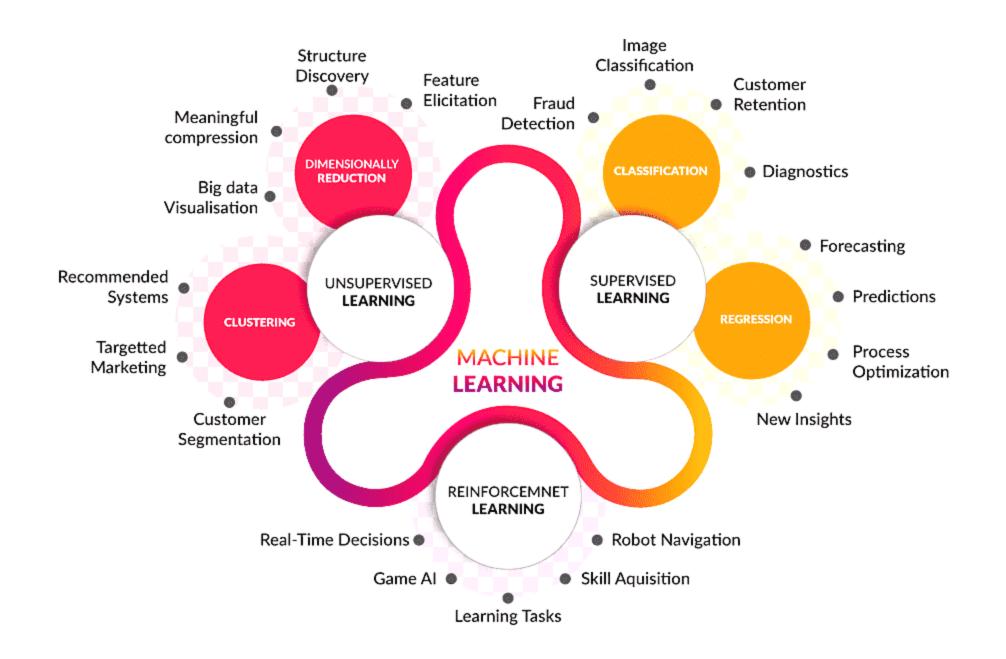
Advanced Topics in SE

Jose Herrera, PHD







Vision

Face detection and Recognition



Image generation (GAN)



Optical Character Recognition



Virtual Reality



Automatic tagging of image



Drone Terrain Mapping



Natural Language

Voice assistants (Alexa, Siri, Google Home etc)



Chatbots



Question answering systems



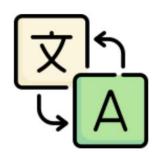
Sentiment Analysis



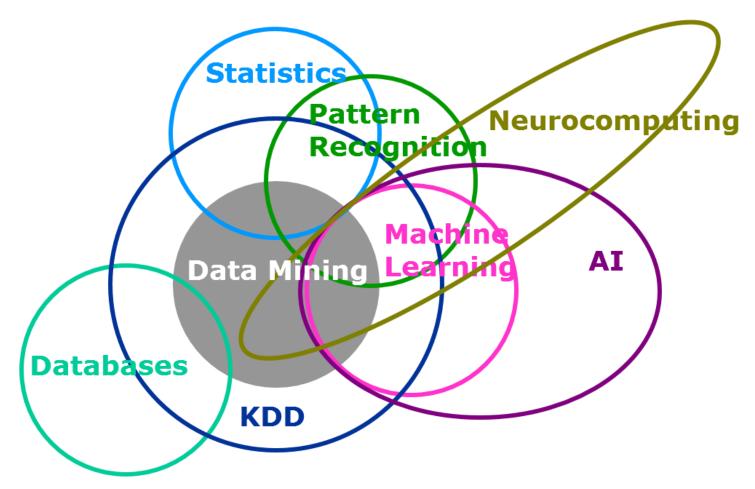
Text summarization algorithms



Machine Translation

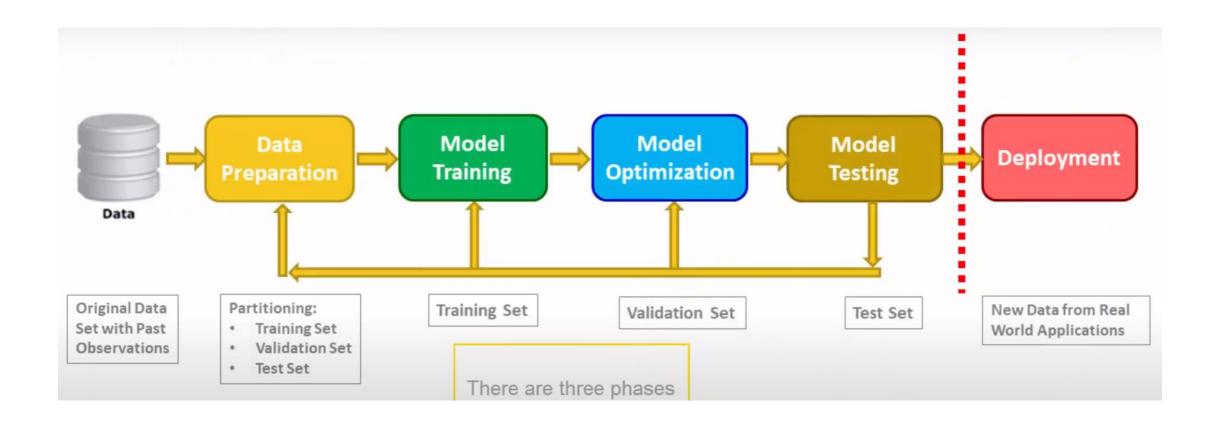


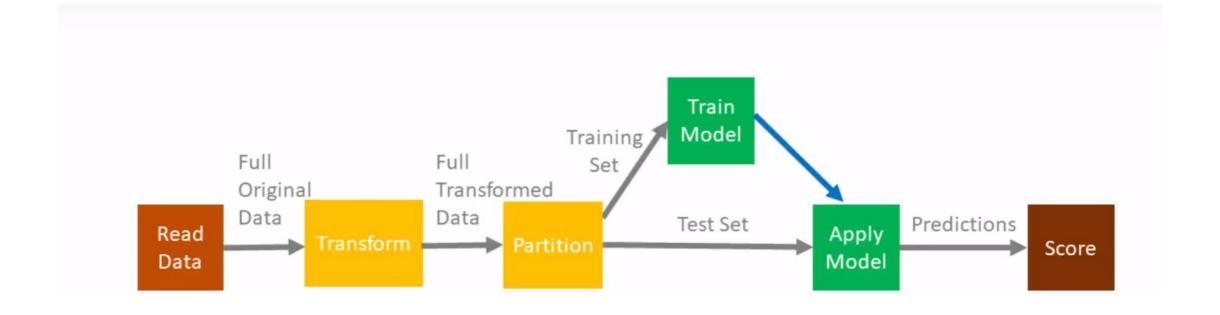
Datamining



https://medium.com/enabled-innovation/artificial-general-intelligence-too-much-or-too-little-too-soon-9c0dd7bd1c2d

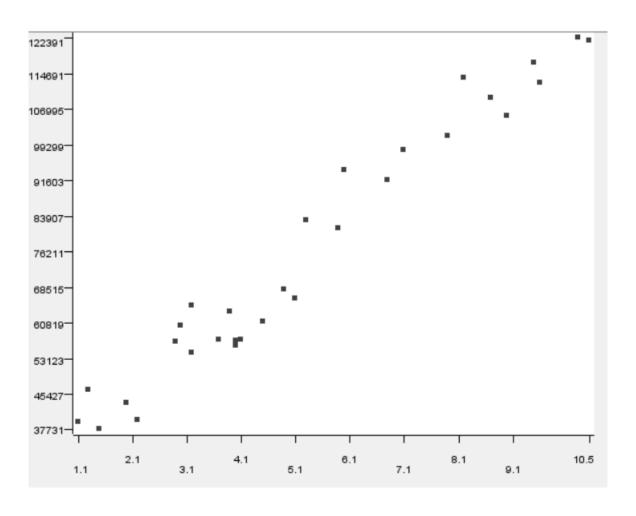
Datamining process



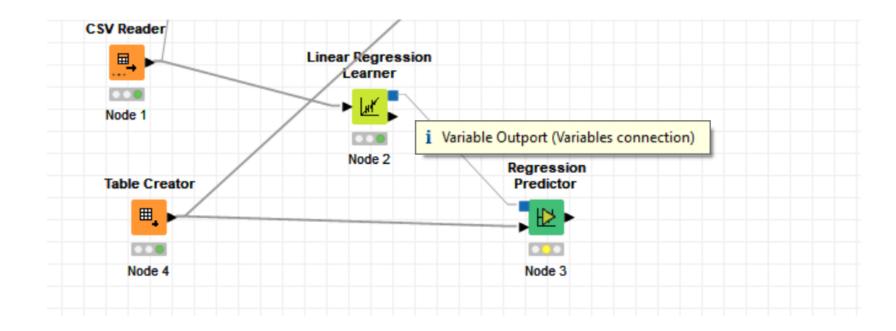


Regressions

Salary prediction

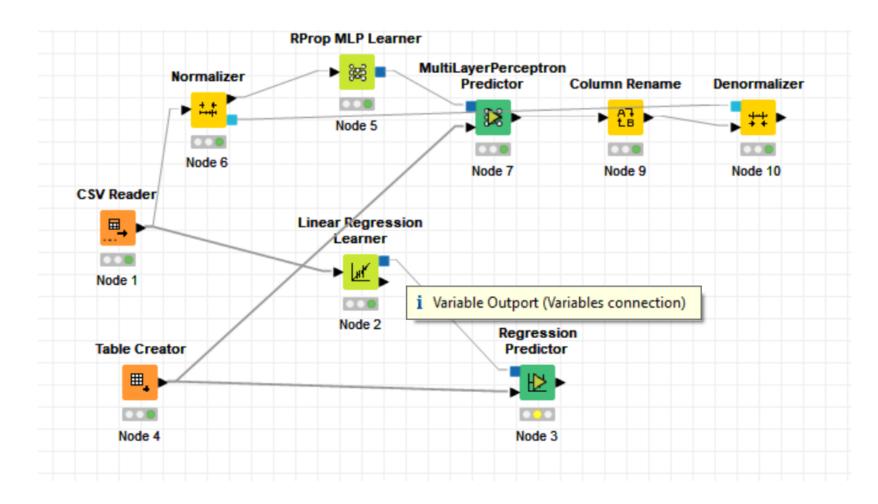


Classwork



Classwork

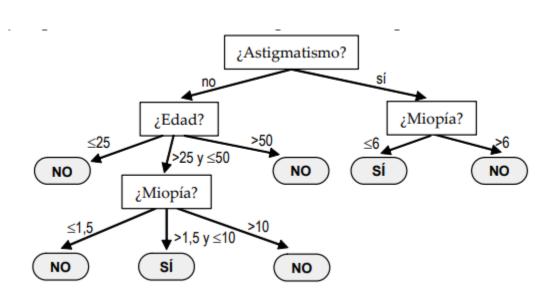
• CO2 2030?



Homework

- Choose a dataset, use línear and polynomial regression to stimate future data
- Dataset
 - Population Peru, Lima
 - PBI

Decision tree



¿Operación?

SI Astig.=No Y 25<Edad≤50 Y 1.5<Miopía≤10 ENTONCES SÍ

SI Astig.=Sí Y Miopía≤6 ENTONCES SÍ

EN OTRO CASO NO

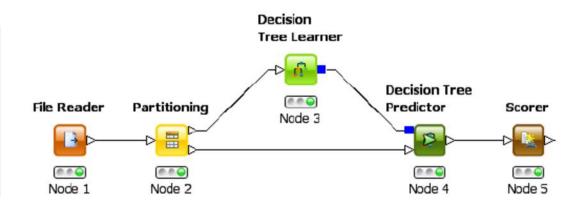
Día	Cielo	Temperatura	Humedad	Viento	Jugar-tenis?
1	soleado	calor	alta	débil	no
2	soleado	calor	alta	fuerte	no
3	nublado	calor	alta	débil	si
4	lluvia	templado	alta	débil	si
	lluvia	frío	normal	débil	si
5	lluvia	frío	normal	fuerte	no
7	nublado	frío 🄉	normal	fuerte	si
8	soleado	templado	alta	débil	no
9	soleado	frío	normal	débil	si
10	lluvia	templado	normal	débil	si
11	soleado	templado	normal	fuerte	si
12	nublado	templado	alta	fuerte	si
13	nublado	calor	normal	débil	si
14	lluvia	templado	alta	fuerte	no

Cuadro 1: Conjunto de ejemplos de entrenamiento para la clase jugar-tenis? Adaptado de Mitchell [17], p.59.

Code a tree

```
DataSource source = new DataSource("/some/where/data.arff");
Instances data = source.getDataSet();

J48 tree = new J48();
Evaluation eval = new Evaluation(data);
eval.crossValidateModel(tree, data, 10, new Random(1));
```

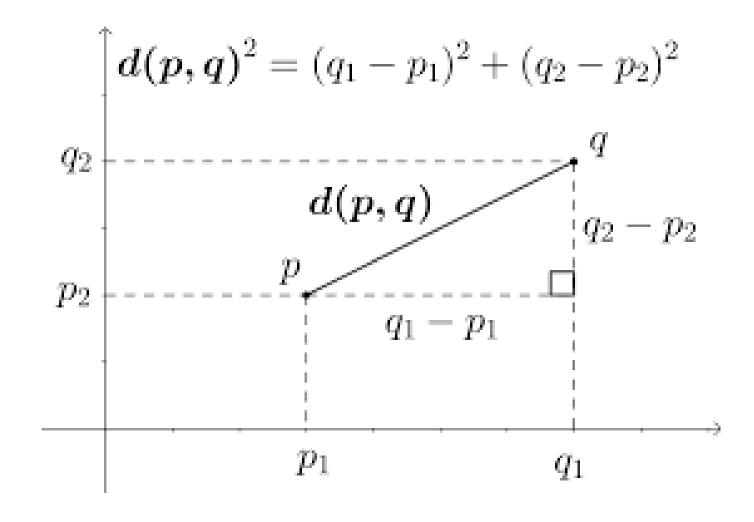


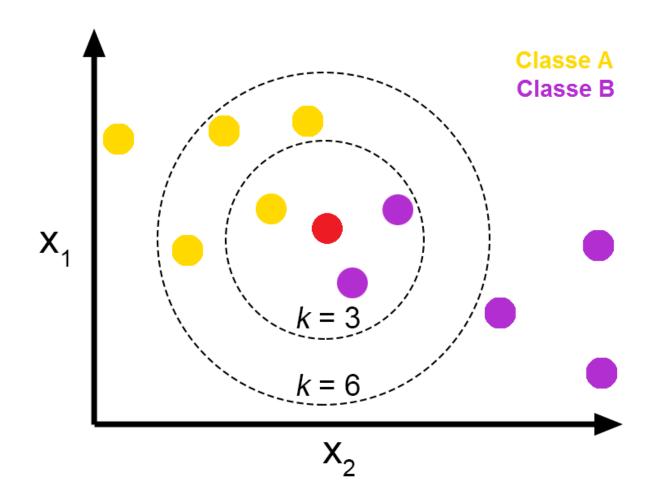
Classwork

- Choose a dataset to classifications task using decisión tree
 - Heart desease
 - Bank marketing campaign
 - Classification of Stars, Galaxies and Quasars
 - Titanic survivor
 - Other

KNN

Euclidean distance

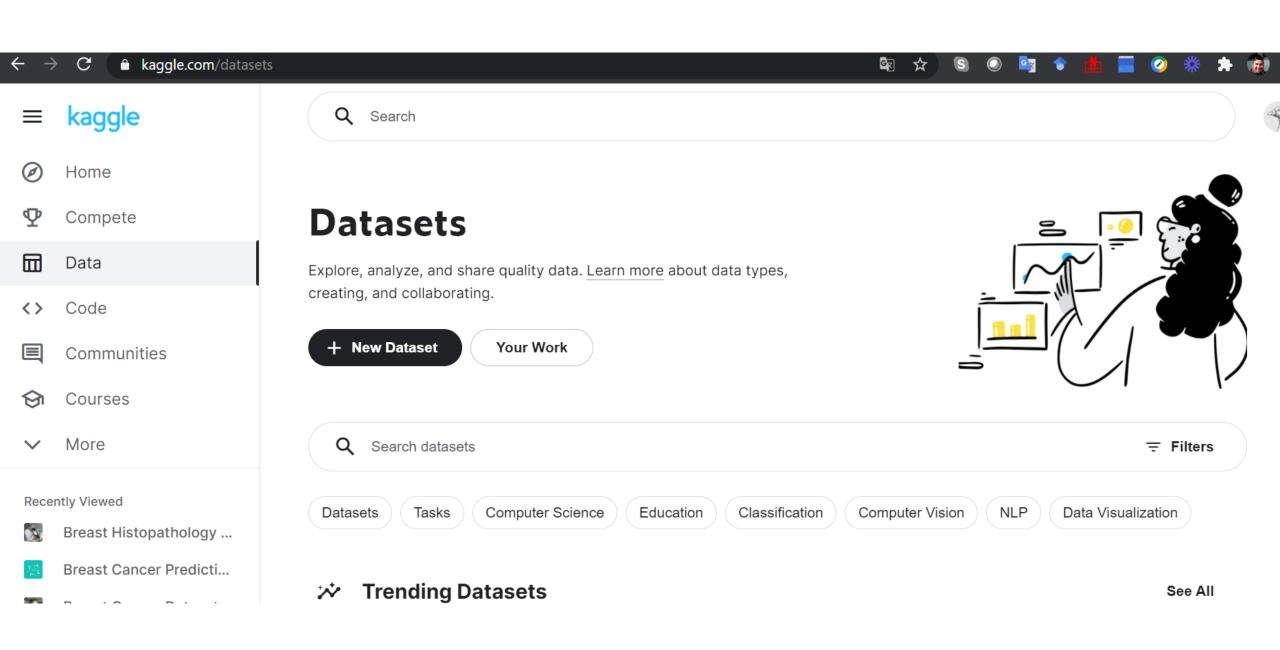




 $d_{s}(p) = x^{2} + y^{2} + z^{2}$ $d_{s}(h_{1}^{3}) = (x+1)^{2} + (y+1)^{2} + (z+1)^{2}$ $d_{s}(h_{2}^{3}) = x^{2} + (y+1)^{2} + (z+1)^{2}$ $d_{s}(h_{2}^{3}) = x^{2} + (y+1)^{2} + (z+1)^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2} + (y+1)^{2} + (z+1)^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2} + (y+1)^{2} + (z+1)^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2} + (y+1)^{2} + (z+1)^{2}$ $d_{s}(h_{1}^{3}) = (x+1)^{2} + (y+1)^{2} + z^{2}$ $d_{s}(h_{3}^{3}) = x^{2} + y^{2} + (z+1)^{2}$ $d_{s}(h_{1}^{3}) = x^{2} + (y+1)^{2} + z^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2} + y^{2} + (z+1)^{2}$ $d_{s}(h_{1}^{3}) = (x+1)^{2} + (y+1)^{2} + z^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2} + y^{2} + (z+1)^{2}$ $d_{s}(h_{1}^{3}) = (x+1)^{2} + (y+1)^{2} + z^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2} + y^{2} + z^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2} + (y+1)^{2} + z^{2}$ $d_{s}(h_{3}^{3}) = (x+1)^{2}$

Classwork

• Implemenst some classifier example based on KNN



Plataforma Nacional de Datos Abiertos

Search

Gobierno de Datos

Marco de Gobernanza de Datos del Estado Peruano está constituido por instrumentos técnicos y normativos que establecen los requisitos mínimos que las entidades de la Administración Pública deben implementar conforme a su contexto legal, tecnológico y estratégico para asegurar un nivel básico y aceptable para la recopilación, procesamiento, publicación, almacenamiento y apertura de los datos que administre.

Pedido





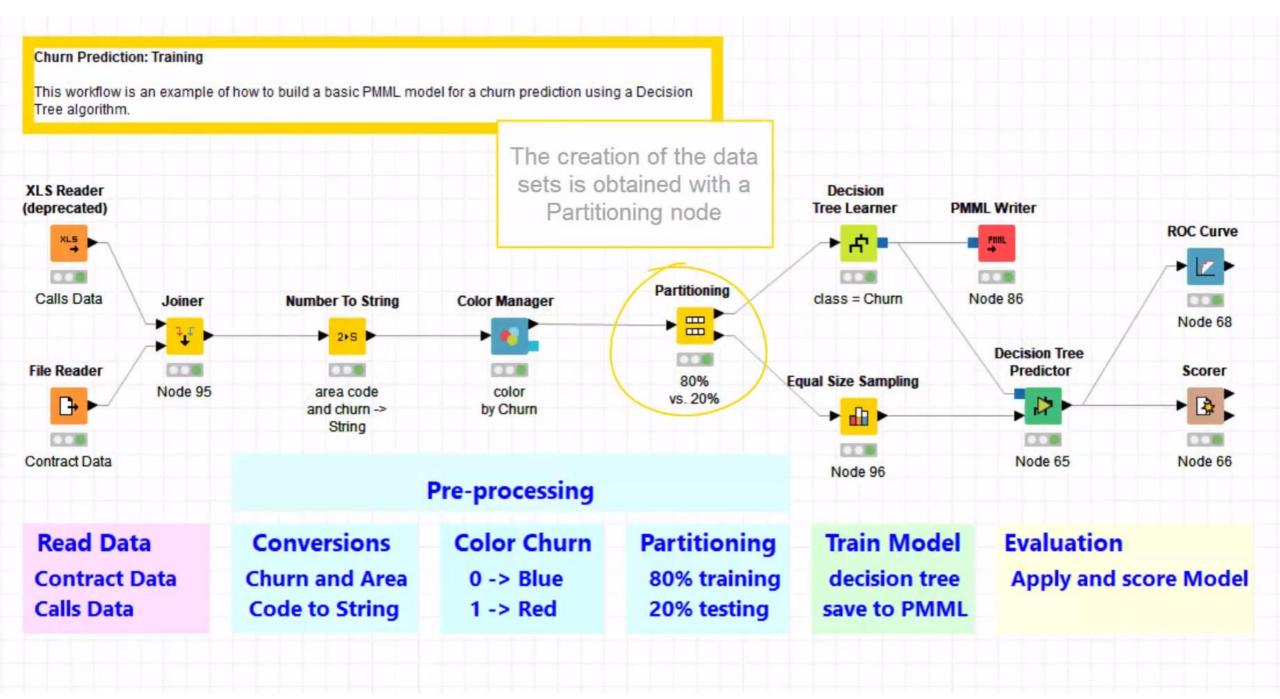
1973 Distribución de Datos

Museos - [Municipalidad de Miraflores]

Municipalidad Distrital de Miraflores

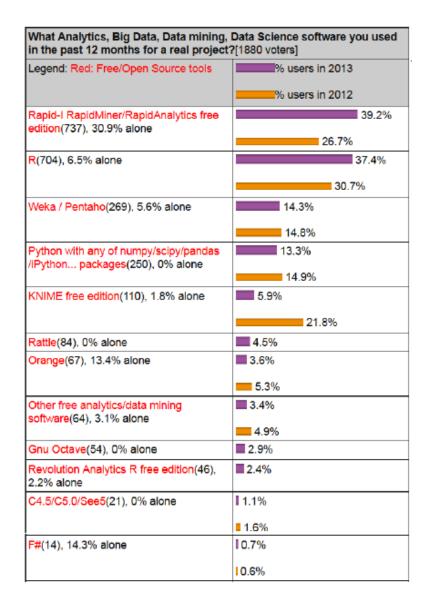
Buscar	Fecha cambiada 🗸 Descendente 🗸 Consultar Reiniciar					
\bigcirc	Vacunación contra COVID - 19 [Ministerio de Salud - MINSA]					
	Los datos publicados corresponden a las vacunas reportadas contra COVID-19 a nivel nominal.					
	data xis xisx					

Ordenar por



Tools

- https://teachablemachine.withg oogle.com/
- Knime



Homework

• Prepare an article for regression or classification