Machine Learning

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Universidad Católica
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**Centro de Investigación
e Innovación en
Ciencia Computación**

Versión 1.0

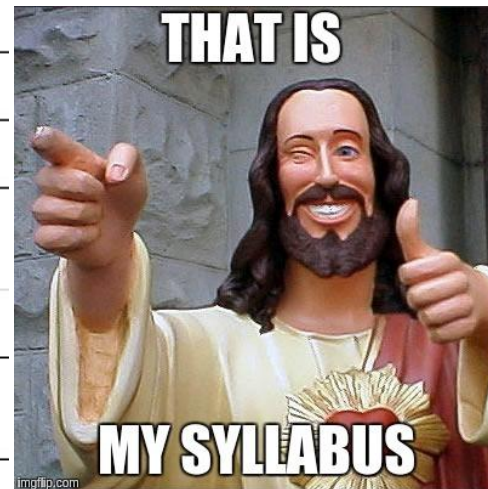|	Tema
Probabilistic Graphical Models & Classifiers	Naive Bayes & Redes bayesianas
	Hidden Markov Models
	Conditional Random Fields
	PCA & Support Vector Machine
	Random forest & gradient boosting
Deep Learning	Introduction to neural networks:shallow & deep networks
	Logistic regression & Gradient Descent
	Computing a Neural Network's Output & vectorized implementation & Softmax regression
	Non linear activation functions & gradient descent for Neural Networks
	Backpropagation intuition & Random Initialization
	Why deep representations ? & Forward Propagation in a Deep Network
	Forward and Backward Propagation & Parameters vs Hyperparameters
	Regularization techniques & Weight Initialization & Gradient Checking
	Mini-batch gradient descent & Optimization algorithms
	Human-level performance & Transfer Learning & Multi-task learning
	Convolutional neural networks
	Face recognition example
	Yolo algorithm & Neural Style Transfer
	Sequence models & Recurrent Neural Networks & BPTT
	GRU & LSTM & BiLSTM & Stack RNN
	Word Embeddings: word2vec, fasttext, glove
	Sequences to sequences & attention mechanism
	Machine translation

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Too much!!!

Versión 2.0

Grupo	Tema	Sesion	
Probabilistic Graphical Models	Naive Bayes	1	
	Bayes Classifier		
	Hidden Markov Models	2	
	Conditional Random Fields		
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	Random Forest		
kernels	SVM	4	
	SVM regression		
Boosting	Gradient Boosting	5	
	XGBoost		
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	K- NN		
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	Dirichlet Process		
nonparametric model & sampling method	Linear Regression	8	
	Multiple Regression		
	Markov chain monte carlo		
off topics	reinforcement learning	9	
	minimax theory		
Neural Networks	Gradient Descent	10	
	Logistic regression		
	MLP		
	CNN	11	
	RNN, GRU, LSTM	12	
	Sequence models		
	Autoencoders	13	
	GAN		

THAT IS MY SYLLABUS

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