General Notes

CS, ML and Stats Patrick Daly

Contents

1	Con	nputer	Science 5
	1.1	Algoria	thms
	1.2	Data S	Sctructures
	1.3	Linux	5
2	Ma	chine L	earning 5
	2.1		rised
		2.1.1	Ordinary Least Squares (OLS)
		2.1.2	Generalized Linear Model(GLM)
		2.1.3	Logistic Regression
		2.1.4	Linear Discriminant Analysis
		2.1.5	Support Vector Machines
		2.1.6	K-Nearest Neighbors
		2.1.7	Gaussian Process
		2.1.8	K-Nearest Neighbors
		2.1.9	Decision Trees
		2.1.10	Random Forest
		2.1.11	Gaussian Process
		2.1.12	Naive Bayes
	2.2	Unsup	ervised
		2.2.1	Gaussan Mixture Models
		2.2.2	K-Means
		2.2.3	Density-Based Spatial Clustering of Applications with
			Noise (DBSCAN)
		2.2.4	Spectral Clustering
		2.2.5	Hierarchical Clustering
		2.2.6	Factor Analysis
		2.2.7	Independent Component Analysis 5
		2.2.8	Principal Component Analysis
		2.2.9	Non-Negative Matrix Factorization (NMF) 5
		2.2.10	Latent Dirichlet Allocation (LDA) 5
		2.2.11	Outliear Detection?
3	Dee	p Lear	rning 5
-	3.1	-	lutional Networks
	3.2		ent Networks
	3.3		Short-Term Memory (LSTM)
	3.4	_	neoders 5

	3.5	Reinforcement Learning
4	Line	ear Algebra
	4.1	Norms
		4.1.1 Euclidean / Frobenius
		4.1.2 Manhatten
		4.1.3 Infinity
		4.1.4 Nuclear
		4.1.5 Spectral
		4.1.6 Symmetric
		4.1.7 Positive Definite
		4.1.8 Positive Semi-Definite
		4.1.9 Negative Definite
		4.1.10 Negative Semi-Definite
	4.2	Eigendecomposition
	4.3	Singular Value Decomposition (SVD)
	4.4	Principal Component Analysis (PCA)
	4.5	Independent Component Analysis (ICA)
	4.6	Canonical Component Analysis (CCA)
	4.7	Factor Analysis
5	Stat	cistics
	5.1	Probability Theory
	5.2	Distributions
	5.3	Combinatorics

1 Computer Science

- 1.1 Algorithms
- 1.2 Data Sctructures
- 1.3 Linux

2 Machine Learning

- 2.1 Supervised
- 2.1.1 Ordinary Least Squares (OLS)
- 2.1.2 Generalized Linear Model(GLM)
- 2.1.3 Logistic Regression
- 2.1.4 Linear Discriminant Analysis
- 2.1.5 Support Vector Machines
- 2.1.6 K-Nearest Neighbors
- 2.1.7 Gaussian Process
- 2.1.8 K-Nearest Neighbors
- 2.1.9 Decision Trees
- 2.1.10 Random Forest
- 2.1.11 Gaussian Process
- 2.1.12 Naive Bayes
- 2.2 Unsupervised
- 2.2.1 Gaussan Mixture Models
- 2.2.2 K-Means
- 2.2.3 Density-Based Spatial Clustering of Applications with Noise (DBSCAN)
- 2.2.4 Spectral Clustering
- 2.2.5 Hierarchical Clustering
- 2.2.6 Factor Analysis
- 2.2.7 Independent Component Analysis
- 2.2.8 Principal Component Analysis
- 2.2.9 Non-Negative Matrix Factorization (NMF)
- 2.2.10 Latent Dirichlet Allocation (LDA)
- ${\bf 2.2.11}\quad {\bf Outliear\ Detection?}$

3 Deep Learning