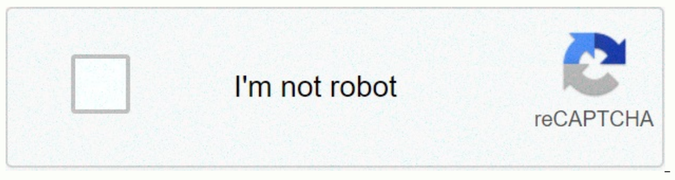

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Statistics for machine learning cheat sheet

Want to learn how machines learn? Start with cheating jokes! This article compiles for you 15 of the best jokers on the web that help you get started with machine learning. If you're short on time, here are 15 direct PDF links (open on the new tab): Each cheat sheet link points directly to the PDF file. So don't waste any more time, and start learning faster with these 15 ML cheat sheets. In the following video, I quickly describe all 15 jokers and their pros and cons: (Article read time: 12 minutes ||| Or watch the video) Why would you care about the jokers? Have you ever studied pareto's 80/20 principle: 80% of causes are responsible for 20% of the effects? Here are some real-world statistics that show Pareto's principle at work: The top 100 words build about 50% of our language (source). 20% of the world's population controls 82.7% of the world's income (source). 20% of customers are responsible for 80% of the profits made (source). Cheat sheets are an 80/20 principle that applies to coding: find out 80% of the relevant material in 20% of the time. If you like learning with jokers, join my free cheat sheet academy: This article compiles a list of all the best machine learning jokers. Are you a practitioner and want to move towards machine learning and data science? Are you a young data scientist just starting out with his career? Or is the computer science student struggling to find a clear path on how to master the formidable field of machine learning? Then look at these pranksters to make your life easier. OPEN ALL LINKS ON THE NEW TAB AND DON'T BE AFRAID OF CLICKING! ☺ 1 January 2007 Supervised Learning (Afshine Amidi) This prankster is the first part of a series of jokers created for the Stanford Machine Learning Class. This gives you a brief and concise introduction to supervised learning. Topics include: Supervised Learning Records, Linear Regression, Classification, Logistical Regression, Generalized Linear Models, Auxiliary Vector Machines, Generative Learning, Gaussian Discriminatory Analysis, Naïve Bayes, Tree and Ensemble Based Methods, and General Learning Theory. 2. Unattended Learning (Afshine Amidi) This prankster is the second part of the introductory series for the Stanford Machine Learning Class. It provides a concise introduction to unattended learning. You'll learn about these topics: Maximize Expectations (EM), K-means Clustering, Hierarchical Grouping, Cluster Assessment Metrics, Main Component Analysis, and Independent Component Analysis. 3. Deep Learning (Afshine Amidi) This is the third part of a series of jokers provided by the Stanford Machine Learning Class. Šalabahter is full of dense information about deep learning. This cheat sheet offers a promising kickstart into a hot topic deep Šalabahter deals with topics such as Introduction to Neural Networks, Entropy, Convolutionary Neural Networks, Repetitive Neural Networks, Reinforcement Learning and Control. Of course, this covers only a subspace of a wide area of deep learning, but it will give you a short and effective start in this attractive area. 4. Tips and tricks for machine learning (Afshine Amidi) The fourth part of the Series of Jokers as part of the Stanford Machine Learning Class promises small tips and tricks in machine learning. Although the author calls it that (Tips and Tricks), I believe it's just an understatement. In reality, this prankster gives you valuable insights from a highly qualified practitioner in the area. Topics are not limited to metrics, classification, regression, model selection and diagnostics. It must be read for upcoming data scientists. 5. Probabilities and Stats (Afshine Amidi) The fifth part of the Stanford machine learning class jokebahter series gives you a fast start (they call it a freshener) in a key area of probability theory and statistics. No matter what area you end up working in, statistics will always help you on your way to becoming a machine learning professional. This refreshment is definitely worth reading (and investing your printer ink). Here are the topics addressed in this cheat sheet: Introduction to Probability and Combinatorics, Conditional Probability, Random Variables, Common Distributions, and Assessment Parameter. Get this cheat sheet now! 6. Linear Algebra and Calculus (Afshine Amidi) Although part six of stanford's popular machine learning class jokebahter series doesn't sound too sexy, it teaches a fundamental field that every machine learning expert knows well: linear algebra. Do you struggle to understand this critical topic? Your lack of understanding will cost you a few weeks as soon as you start implementing practical machine learning algorithms. Simply put: you need to master linear algebra, there is no way. Do it now and do it well. What precise topics are included in this prankster? Standard matrix notation, Matrix operations, Matrix properties, and Matrix account (operation gradient). You see, it's all about stencinciers. Before you even consider diving in practical libraries used in machine learning (such as Python's numpy, check out my HUGE numpy tutorial), first study this šalabahter. 7. Comprehensive Stanford Master Cheat Sheet (Afshine Amidi) This prankster consists of six jokers of the Stanford machine learning class. It's a terrible resource, full of information in many important subspecies in machine learning. I recommend downloading this resource and studying it all day. This will increase your machine learning skills in a little time. The widespread themes of this cheat sheet include supervised learning, unattended learning, deep learning, machine learning tips and tricks, probabilities and statistics, and linear algebra and account. Don't waste any more time reading the rest of this article and download this prankster. Thank you, Afshine, for this awesome resource! 8. Data Science Cheat Sheet (Datacamp) Datacamp jokers are always worth a look. However, I would recommend this jokebahter only for absolute beginners in the field of data science. If you focus on learning basic concepts of machine learning and already have some experience, skip this jokebahter. But if you're just starting with data science and machine learning - and want to use Python as your programming language - this 1-page cheat sheet of data science is for you. The main themes of this joke are Install python, Python variables and data types, String and String Operations, Lists and List Methods, and Basic Numpy Functionality (numpy is python library for basic linear algebra and matrix operations). 9. Keras Cheat Sheet (Datacamp) This 1-page cheat sheet is worth your time if you are researching a specialized Keras machine learning tool. I haven't used Keras yet, but it's considered the best abstraction layer for deep learning and neural networks. Wikipedia defines Keras as follows. Keras is an open source neural network library written in Python. It is capable of running at the top of TensorFlow, Microsoft Cognitive Toolkit, or Theano. Designed to enable rapid experimentation with deep neural networks, it focuses on being user-friendly, modular and extensive. With such wide applicability, I am so confident, that I will check keras after the end of this blog. Will you? Keras cheat sheet solves the following points (from a code-oriented perspective). Basic use, data and data structures, preprocessing, multilayer perceptron, convolutionary neural networks, repetitive neural networks and model training, reasoning and fine-tuning. 10. Deep learning with Keras Cheat Sheet (RStudio) Simply put: I love this prankster. It's about learning deeply with the Keras Open Source Neural Network Library. Visually, to such an extent, it is comprehensive and understandable. I recommend to check this prankster! The 2-page Šalabahter gives you a quick overview of the Keras Deep Learning Pipeline. This shows you how to work with models (e.g. definition, training, prediction, fitting, and evaluation). Furthermore, it gives you a visual overview of how to access different layers in the neural network. Finally, it provides a brief but insightful example of the standard demo problem of handwriting recognition. 11. Visual Guide to Neural Network Infrastructures (Asimov Institute) This 1-page visual guide gives you a quick overview of all the most common neural networks that you will find in the wild. The sheet shows 27 different architectures. As a machine learning novice, you won't get much out of this sheet. However, if you are a practitioner in the field of neural networks, you will love it. Šalabahter displays 27 neural network architectures, including Perceptron, Feedforward, Radial Basis Network, Deep Feedforward, Recurrent Neural Network, Long Term/Short Term Memory (LSTM), Closed Repeating Unit, Autoencoder, Variation Autoencoder, Denoizing Autoencoder, Rare Autoencoder, Mark's Chain, Hopfield Network, Boltzmann machine, limited Boltzmann machine, deep belief network, iFinally, deep convolutionary network, deconvolution network, deep convolial inverse graphics network, generative contradictory network, liquid state machine, extreme learning machine, echo state network, deep residual network, cohonone network, auxiliary vector machine and neural turing machine. Blow, what a list! 12. Sketch-Learn Python Cheat Sheet (Datacamp) Another one-page cheating PDF sheet that gives you a headstart in Python's scikit-learn machine learning library. This library is the best library with one CPU, general purpose libraries for machine learning in Python. Python is the most popular programming language in the field of machine learning, so this prankster gives you great value. Get this prankster if you use Python for machine learning. Topics include basic functionalities such as loading and preloading training data, Model creation, Model installation, Prediction and reasoning, and evaluation metrics such as classification metrics, regression metrics, clustering metrics, cross-validation, and model tweaks. Be warned that these concepts are not explained in detail. It just shows you how to use them in the sketch-learn library. 13. Scikit-learn Cheat Sheet: Choosing the Right Appraiser (Scikit-learn.org) This prankster is so valuable - I can't even put it into words. Thanks, scikit-learn creators, for publishing this awesome piece of art! It helps you figure out which algorithm to use for what type of problem. You just follow the questions in the joker. As a result, you will come up with the recommended algorithm for your problem. That's why I like cheaters - they can deliver complex information in a little while. Šalabahter divides appraisers into four classes: Classification, Clustering, Regression and Declining Dimensionality. Although these classes are not explored in depth, you will already know which direction to look further. Of course, if you are already an experienced practitioner, the information provided can be too simple - but isn't that true for every joker? Build your thinking now! (Do this.) 14. Tensorflow Cheat Sheet (Altoros) Although this prankster is not the most sophisticated, it is still worth being one of the few cheater cheater Out there. You know TensorFlow, don't you? TensorFlow is one of the most popular Github projects and was created by Google. Its machine learning API is adapted to deep learning on a heterogeneous computing environment (including GPUs). Today, if you're pushing in the field of deep learning, there's no way you can avoid TensorFlow. First impressions tighten with this prankster, then dive into Google's TensorFlow system. By the way, you can also use Keras on top of TensorFlow as a higher high level of abstraction layer. See Keras cheat sheet described earlier. Šalabahter gives you tips on the correct installation method, Helper functions, Name of some important functions in TensorFlow and Appraisers. To be honest, I wouldn't recommend studying TensorFlow with this prankster. Why? Because it's not focused on education. Nevertheless, I felt obliged to include the connection because there are no better alternatives for TensorFlow. If you know a better resource, let me know. Machine Learning Test Cheat Sheet (Cheatography) Do you know cheatography? It's like Wikipedia for jokers. Everyone can send jokers (user-generated content). Having gone through most of the machine learning pranksters at Cheatography, I found that this one would be a great help to most of our readers. It's a well-structured overview of some important machine learning algorithms. This shows you that there are three common problems in machine learning: regression, grouping and classification. This gives you general steps to train models. Finally, it looks over a collection of specific algorithms that you should know at the beginning in the field of machine learning. These are logistical regression, decision tree, random forest, k-means, naïve Bayes, to the nearest neighbors and auxiliary vectors. I know it's just the first dip in the ocean. But if you're a beginner or medium machine learning practicioner, it can only be what you're looking for. Have you enjoyed this collection of the top 15 machine learning jokers on the web? I recommend downloading all 15 sheets, printing them out and working through each one. This will give you the first overview of the field of machine learning. Later, you can decide in which area to dive further. Bonus: Many hot machine learning systems (e.g. TensorFlow) require excellent python programming skills. Do you know all the features, tips and tricks of Python? If not, I recommend checking this free Python cheat sheet email course. The email course will not only provide you with 5 Python pranksters (80% learning in 20% of the time, remember?) but also a steady stream of Python program lectures. It's 100% free, you can leave at any time, and I won't spam you. This is pure value (and occasionally I will send you information about my books and courses). like that It's up! Subscribe to email course **FREE** Where to go from here? Enough theory, let's go to practice! To become successful in kodiing, you need to go out and solve real problems for real people. That way you can easily become a six-figure earner. And so you polish out the skills you really need in practice. After all, what is the use of learning theory that no one ever needs? The practice of projects is how to sharpen the saw in coding! Do you want to become a master of code by focusing on practical code projects that actually make you money and solve problems for people? Then become a Python freelance developer! This is the best way to approach the task of improving your Python skills – even if you are a complete beginner. Join my free how to Build Your High-Income Skill Python webiary and watch how I grew my business coding online and how you can too - from the comfort of my own home. Join the free webiary now! Nwo!