

Machine Learning Theory and Applied Resources

Machine Learning Lectures

de Freitas is a very good lecturer and these have the right balance of theory and application, not too mathematical

https://www.youtube.com/playlist?list=PLE6Wd9FR--Ecf_5nCbnSQMHqORpiChfJf

- very good undergraduate course by Nando de Freitas at UBC

<https://www.youtube.com/playlist?list=PLE6Wd9FR--EdyJ5lbFl8UuGjecvVw66F6>

- very good graduate course by Nando de Freitas at UBC

<https://www.youtube.com/playlist?list=PLE6Wd9FR--EfW8dtjAuPoTuPcqmOV53Fu>

- Deep learning 2015 by Nando de Freitas at Oxford

Probability Lectures

probability is the basis of most machine learning theory and this is a good course, the discussion sections are especially helpful

https://www.youtube.com/watch?v=j9WZyLZCBzs&list=PLUl4u3cNGP60A3XMwZ5sep719_nh95qOe

- MIT 6.041 Probabilistic Systems Analysis and Applied Probability by John Tsitsiklis at MIT, includes videos of discussion sections

Additional Lectures

more mathematical and theoretical lectures, including two by big names in the field

<https://www.youtube.com/playlist?list=PLD63A284B7615313A>

- CS 156 by Yaser Abu-Mostafa at Caltech

https://www.youtube.com/playlist?list=PLaXDtXvwY-oDvedS3f4HW0b4KxqpJ_imw

- CS273A by Alexander Ihler at UCI

https://www.youtube.com/view_play_list?p=A89DCFA6ADACE599

- CS229 by Andrew Ng at Stanford

Machine Learning Textbooks

both of these are free and well known, focus on machine learning theory

James, Witten, Hastie, and Tibshirani - An Introduction to Statistical Learning with Applications in R

<http://www-bcf.usc.edu/~gareth/ISL/>

- introductory textbook with R code, free

Hastie, Tibshirani, and Friedman - The Elements of Statistical Learning

<http://statweb.stanford.edu/~tibs/ElemStatLearn/>

- graduate level textbook, free

Additional Textbooks

additional textbooks on topics related to machine learning

Wasserman - All of Statistics, A Concise Course in Statistical Inference

<http://www.amazon.com/All-Statistics-Statistical-Inference-Springer/dp/0387402721>

- covers statistics with a heavy emphasis on machine learning

Richert and Coelho - Building Machine Learning Systems with Python

<http://www.amazon.com/Building-Machine-Learning-Systems-Python/dp/1782161406>

- practical guide for building machine learning systems in Python with scikit-learn, not much background theory