

Online Channels

Last modified: 2026-10-16

These are YouTube channels that explain the course’s material in another voice, go deeper than the notes, or show where the field is heading. The lists hold 93 entries from 76 channels; a channel useful for two topics appears under both.

The lists are curated for this course, not drawn from a ranking. Each entry’s level and description are a judgment of the channel’s content, and the lists are updated as channels change. The description of each channel links to specific playlists or videos on the table’s topic, so a channel listed under two topics links to different material in each. We last confirmed that every link opens the channel, playlist or video it names on 2026-10-09.

Each channel has a level:

- **Intro:** no prerequisites beyond high-school mathematics.
- **Intermediate:** upper-division or graduate lecture series.
- **Advanced:** assumes a graduate background.
- **Research:** talks and paper reviews.
- **General:** for a popular audience; good for motivation, not for study.

1 Machine learning

Table 1: Machine learning channels, with level and what each is good for.

Channel	Level	Good for
StatQuest with Josh Starmer ¹	Intro	Short, step-by-step explanations of nearly every method ² in DATA 571 (trees, boosting ³ , SVMs ⁴ , PCA, regularization).
Luis Serrano Academy ⁵	Intro	Friendly visual intuition for neural nets ⁶ , transformers ⁷ and classical ML ⁸ .
3Blue1Brown ⁹	Intro	The “Neural networks” ¹⁰ series: backpropagation ¹¹ , gradient descent and transformers ¹² drawn from first principles.
Welch Labs ¹³	Intro	Carefully animated stories of ML ideas (learning to see ¹⁴ , the perceptron ¹⁵ , backpropagation ¹⁶).

¹<https://www.youtube.com/@statquest>

²https://www.youtube.com/playlist?list=PLblh5JKOoLUICTaGLRoHQDuF_7q2GfuJF

³https://www.youtube.com/playlist?list=PLblh5JKOoLUJJeXUvUE0maghNuY2_5fY6

⁴<https://www.youtube.com/playlist?list=PLblh5JKOoLUL3IJ4-yor0HzkqDQ3JmJkc>

⁵<https://www.youtube.com/@SerranoAcademy>

⁶<https://www.youtube.com/playlist?list=PLs8w1Cdi-zvavXlPXEA5Wlh4Cgh83pZPO>

⁷<https://www.youtube.com/watch?v=qaWMOYf4ri8>

⁸<https://www.youtube.com/playlist?list=PLs8w1Cdi-zvY9ICoYqu1XV0YoTQgShXw2>

⁹<https://www.youtube.com/@3blue1brown>

¹⁰https://www.youtube.com/playlist?list=PLZHQObOWTQDNU6R1_67000Dx_ZCJB-3pi

¹¹<https://www.youtube.com/watch?v=Ilg3gGewQ5U>

¹²<https://www.youtube.com/watch?v=wjZofJX0v4M>

¹³<https://www.youtube.com/@WelchLabs>

¹⁴<https://www.youtube.com/playlist?list=PLiaHhY2iBX9ihLasvE8BKns2Xg8AhY6iV>

¹⁵<https://www.youtube.com/watch?v=l-9ALe3U-Fg>

¹⁶<https://www.youtube.com/watch?v=VkhFRKewkWw>

Table 1: Machine learning channels, with level and what each is good for.

Channel	Level	Good for
Stanford Online ¹⁷	Intermediate	Full lecture series: CS229 ¹⁸ (machine learning), CS231n (vision), CS224N ¹⁹ (NLP), and Hastie and Tibshirani’s Statistical Learning (ISLR) ²⁰ .
caltech ²¹	Intermediate	Yaser Abu-Mostafa’s “Learning from Data” (CS 156): the theory of generalization ²² , VC dimension ²³ and bias-variance ²⁴ , very clear.
Kilian Weinberger ²⁵	Intermediate	Cornell CS4780 lectures ²⁶ ; close in scope and level to DATA 571.
MIT OpenCourseWare ²⁷	Intermediate	Lectures such as Introduction to Machine Learning ²⁸ and Introduction to Neural Networks and Deep Learning ²⁹ , plus related ML and statistics courses.
Alfredo Canziani ³⁰	Intermediate	NYU Deep Learning (with Yann LeCun): history of deep learning ³¹ , energy-based models ³² , PyTorch, graduate level.
mathematicalmonk ³³	Intermediate	Older but rigorous short lectures on ML ³⁴ and probability ³⁵ from a mathematical viewpoint.
Steve Brunton ³⁶	Intermediate	SVD ³⁷ , PCA ³⁸ , regression and ML for science and engineering; pairs with his “Data-Driven Science and Engineering” book ³⁹ .
Mutual Information ⁴⁰	Intermediate	Polished explainers on the theory behind ML: bias-variance ⁴¹ , information theory, RL ⁴² .
Andrej Karpathy ⁴³	Advanced	“Neural Networks: Zero to Hero” ⁴⁴ : building autograd ⁴⁵ , language models and GPT ⁴⁶ from scratch in Python.

¹⁷<https://www.youtube.com/@stanfordonline>

¹⁸<https://www.youtube.com/playlist?list=PLoROMvodv4rMiGQp3WXShMGgzqpfVfbU>

¹⁹<https://www.youtube.com/playlist?list=PLoROMvodv4rMFqRtEu06SGjY4XbRIVRd4>

²⁰https://www.youtube.com/playlist?list=PLoROMvodv4rOzrYsAxxQyHb8n_RWNuS1e

²¹<https://www.youtube.com/@caltech>

²²<https://www.youtube.com/watch?v=6FWRijsmLtE>

²³<https://www.youtube.com/watch?v=Dc0sr0kdBVI>

²⁴<https://www.youtube.com/watch?v=zrEyxfl2-a8>

²⁵<https://www.youtube.com/@kilianweinberger698>

²⁶<https://www.youtube.com/playlist?list=PLl8OIHZGYOQ7bkVbuRthEsaLr7bONzbXS>

²⁷<https://www.youtube.com/@mitocw>

²⁸<https://www.youtube.com/watch?v=h0e2HAPTGF4>

²⁹<https://www.youtube.com/watch?v=kyQ0CRkYhy4>

³⁰<https://www.youtube.com/@alfcnz>

³¹https://www.youtube.com/watch?v=0bMe_vCZo30

³²<https://www.youtube.com/watch?v=tVwV14YkbYs>

³³<https://www.youtube.com/@mathematicalmonk>

³⁴<https://www.youtube.com/playlist?list=PLD0F06AA0D2E8FFBA>

³⁵<https://www.youtube.com/playlist?list=PL17567A1A3F5DB5E4>

³⁶<https://www.youtube.com/@Eigensteve>

³⁷<https://www.youtube.com/playlist?list=PLMrJAKhIeNNSVjnsviglFoY2nXildDCcv>

³⁸<https://www.youtube.com/watch?v=fkf4IBRSeEc>

³⁹<https://www.youtube.com/watch?v=oEXR9EnAtm4>

⁴⁰https://www.youtube.com/@Mutual_Information

⁴¹<https://www.youtube.com/watch?v=FcXQKsZKRUs>

⁴²https://www.youtube.com/watch?v=NF09v_yKQXA

⁴³<https://www.youtube.com/@AndrejKarpathy>

⁴⁴<https://www.youtube.com/playlist?list=PLAqhIrjxbuWI23v9cThsA9GvCAUhRvKZ>

⁴⁵<https://www.youtube.com/watch?v=VMj-3S1tku0>

⁴⁶<https://www.youtube.com/watch?v=kCc8FmEb1nY>

Table 1: Machine learning channels, with level and what each is good for.

Channel	Level	Good for
Pieter Abbeel ⁴⁷	Advanced	Berkeley courses on his courses page ⁴⁸ ; Deep Unsupervised Learning ⁴⁹ (Spring 2024, the source of the semi-supervised lecture video; also Spring 2020 ⁵⁰), Foundations of Deep RL ⁵¹ and CS287 Advanced Robotics ⁵² (Fall 2019), for deep learning and reinforcement learning courses after this one.
Umar Jamil ⁵³	Advanced	Line-by-line implementations of transformers ⁵⁴ , diffusion models ⁵⁵ and LLM techniques such as LoRA ⁵⁶ in PyTorch.
DeepLearningAI ⁵⁷	Intermediate	Andrew Ng’s Heroes of Deep Learning ⁵⁸ interviews and lessons from DeepLearning.AI courses ⁵⁹ , including the Machine Learning Specialization ⁶⁰ and the Deep Learning Specialization’s neural networks ⁶¹ , regularization and optimization ⁶² , project structuring ⁶³ and convolutional network ⁶⁴ courses.
Jeremy Howard ⁶⁵	Intermediate	fast.ai “Practical Deep Learning for Coders” ⁶⁶ : top-down, code-first.
sentdex ⁶⁷	Intro	Practical Python ML ⁶⁸ and deep learning ⁶⁹ tutorials.
Yannic Kilcher ⁷⁰	Research	Long walk-throughs of ML papers ⁷¹ , including classic papers ⁷² .
AI Coffee Break with Letitia ⁷³	Research	Short, accurate explainers on transformers ⁷⁴ , LLMs ⁷⁵ and diffusion models ⁷⁶ .
Two Minute Papers ⁷⁷	General	Quick tours of new research results in AI and deep learning ⁷⁸ , plus graphics and generative models.

⁴⁷<https://www.youtube.com/@PieterAbbeel>

⁴⁸<https://www.youtube.com/@PieterAbbeel/courses>

⁴⁹https://www.youtube.com/playlist?list=PLwRJQ4m4UJjPIv4kgBkvu_uygrV3ut_U

⁵⁰<https://www.youtube.com/playlist?list=PLwRJQ4m4UJjPiJP3691u-qWwPGVKzSiNP>

⁵¹<https://www.youtube.com/playlist?list=PLwRJQ4m4UJjNymuBM9RdmB3Z9N5-0IIY0>

⁵²<https://www.youtube.com/playlist?list=PLwRJQ4m4UJjNBPJdt8WamRA4tXKc639wF>

⁵³<https://www.youtube.com/@umarjamilai>

⁵⁴<https://www.youtube.com/watch?v=ISNdQcPhsts>

⁵⁵https://www.youtube.com/watch?v=ZBKpAp_6TGI

⁵⁶<https://www.youtube.com/watch?v=PXWYUTMt-AU>

⁵⁷<https://www.youtube.com/@Deeplearningai>

⁵⁸<https://www.youtube.com/playlist?list=PLkDaE6sCZn6FcbHIDzbVzf3TVgxzxK7lr>

⁵⁹<https://www.youtube.com/playlist?list=PLkDaE6sCZn6Fowk0hFL5O5uZWWQegaQz5>

⁶⁰https://www.youtube.com/playlist?list=PLkDaE6sCZn6FNC6YRfRQc_FbeQrF8BwGI

⁶¹https://www.youtube.com/playlist?list=PLkDaE6sCZn6Ec-XTbcX1uRg2_u4xOEky0

⁶²<https://www.youtube.com/playlist?list=PLkDaE6sCZn6Hn0vK8co82zjQtt3T2Nkqc>

⁶³https://www.youtube.com/playlist?list=PLkDaE6sCZn6E7jZ9sN_xHwSHOdjUxUW_b

⁶⁴<https://www.youtube.com/playlist?list=PLkDaE6sCZn6Gl29AoE3liwdVwSG-KnDzF>

⁶⁵<https://www.youtube.com/@howardjeremyp>

⁶⁶https://www.youtube.com/watch?v=8SF_h3xF3cE

⁶⁷<https://www.youtube.com/@sentdex>

⁶⁸<https://www.youtube.com/watch?v=OGxgnH8y2NM>

⁶⁹https://www.youtube.com/watch?v=Wo5dMEP_BbI

⁷⁰<https://www.youtube.com/@YannicKilcher>

⁷¹<https://www.youtube.com/playlist?list=PL1v8zpldgH3pR7LPuidEZK68kS6AaU1y7>

⁷²<https://www.youtube.com/playlist?list=PL1v8zpldgH3qQB5Pz6ZSTTDLU0BjAJYNf>

⁷³<https://www.youtube.com/@AICoffeeBreak>

⁷⁴<https://www.youtube.com/watch?v=ec9IQMiJBhs>

⁷⁵https://www.youtube.com/playlist?list=PLpZBeKTZRGP0z2KK3J_Y3pH81NssReJ9j

⁷⁶<https://www.youtube.com/playlist?list=PLpZBeKTZRGPvAyM9DM-a6W0lugCo8WfC>

⁷⁷<https://www.youtube.com/@TwoMinutePapers>

⁷⁸<https://www.youtube.com/playlist?list=PLujxSBD-JXglGL3ERdDOhthD3jTlfudC2>

Table 1: Machine learning channels, with level and what each is good for.

Channel	Level	Good for
Machine Learning Street Talk ⁷⁹	Research	Long interviews with ML researchers on theory and open problems, such as Francois Chollet on intelligence and generalisation ⁸⁰ and Andrew Wilson on why huge models work ⁸¹ .
Simons Institute for the Theory of Computing ⁸²	Research	Workshop talks on learning theory ⁸³ , optimization and deep learning theory ⁸⁴ .

2 Statistics

Table 2: Statistics channels, with level and what each is good for.

Channel	Level	Good for
StatQuest with Josh Starmer ⁸⁵	Intro	Hypothesis tests, p-values ⁸⁶ , linear models ⁸⁷ , maximum likelihood ⁸⁸ , explained slowly and visually.
jbstatistics ⁸⁹	Intro	Concise, accurate introductory probability and inference: distributions ⁹⁰ , sampling ⁹¹ , confidence intervals ⁹² .
5MinuteAI ⁹³	Intro	Five-minute videos that follow the University of Washington’s CSE 312: Probability & Statistics ⁹⁴ runs from sets and counting through random variables, limit theorems, maximum likelihood ⁹⁵ and hypothesis testing ⁹⁶ .
Khan Academy ⁹⁷	Intro	AP and college intro statistics ⁹⁸ and probability ⁹⁹ , with exercises on its site.
CrashCourse ¹⁰⁰	General	The “Statistics” series ¹⁰¹ : a fast conceptual overview.
zedstatistics ¹⁰²	Intro	Regression ¹⁰³ , time series and econometrics ¹⁰⁴ with a practical bent.

⁷⁹<https://www.youtube.com/@MachineLearningStreetTalk>

⁸⁰https://www.youtube.com/watch?v=J0p_thJJnoo

⁸¹<https://www.youtube.com/watch?v=M-jTeBCEGHc>

⁸²<https://www.youtube.com/@SimonsInstitute>

⁸³<https://www.youtube.com/playlist?list=PLgKuh-lKre12jnpYwdX3iJmV1QnOaJdVG>

⁸⁴<https://www.youtube.com/playlist?list=PLgKuh-lKre13Qgeo9Yf4pMIqwpLRPa1Lk>

⁸⁵<https://www.youtube.com/@statquest>

⁸⁶<https://www.youtube.com/playlist?list=PLblh5JKOoLUK0FLuzwntyYI10UQFUhsY9>

⁸⁷<https://www.youtube.com/watch?v=R7xd624pR1A>

⁸⁸<https://www.youtube.com/playlist?list=PLblh5JKOoLUJi29IizTBupf0Yrn1l6ntB>

⁸⁹<https://www.youtube.com/@jbstatistics>

⁹⁰<https://www.youtube.com/watch?v=iYiOVIWXS4>

⁹¹https://www.youtube.com/playlist?list=PLvxOuBpazmsP7UN00cNZX64N1o_8635ds

⁹²<https://www.youtube.com/watch?v=27iSnzss2wM>

⁹³<https://www.youtube.com/@5minuteai663>

⁹⁴<https://www.youtube.com/playlist?list=PLbB45KifGiuHesi4PALNZSYZFhViVGQJK>

⁹⁵<https://www.youtube.com/watch?v=Pa-GWE5JuH4>

⁹⁶https://www.youtube.com/watch?v=Plya_ZXkOvs

⁹⁷<https://www.youtube.com/@khanacademy>

⁹⁸<https://www.youtube.com/playlist?list=PL1328115D3D8A2566>

⁹⁹<https://www.youtube.com/playlist?list=PLC58778F28211FA19>

¹⁰⁰<https://www.youtube.com/@crashcourse>

¹⁰¹<https://www.youtube.com/watch?v=sxQaBpKfDRk>

¹⁰²<https://www.youtube.com/@zedstatistics>

¹⁰³<https://www.youtube.com/watch?v=eYTumjgE2IY>

¹⁰⁴<https://www.youtube.com/watch?v=0MFpOQRY0rw>

Table 2: Statistics channels, with level and what each is good for.

Channel	Level	Good for
Brandon Foltz ¹⁰⁵	Intro	Patient walk-throughs of regression ¹⁰⁶ , ANOVA ¹⁰⁷ and logistic regression ¹⁰⁸ .
Very Normal ¹⁰⁹	Intermediate	Biostatistics-flavoured explainers on inference ¹¹⁰ , Bayesian ideas ¹¹¹ and study design ¹¹² .
ritvikmath ¹¹³	Intermediate	Data-science statistics: time series ¹¹⁴ , Bayesian methods ¹¹⁵ , MCMC ¹¹⁶ , with whiteboard derivations.
Ben Lambert ¹¹⁷	Intermediate	Bayesian statistics ¹¹⁸ and econometrics ¹¹⁹ ; companion to “A Student’s Guide to Bayesian Statistics”.
Richard McElreath ¹²⁰	Intermediate	“Statistical Rethinking ¹²¹ ” lectures: Bayesian modelling and causal inference with DAGs ¹²² .
Harvard University ¹²³	Intermediate	Joe Blitzstein’s Stat 110 ¹²⁴ (probability) lectures, the standard reference course.
MIT OpenCourseWare ¹²⁵	Intermediate	18.650 ¹²⁶ (statistics for applications) and 18.05 (probability and statistics).
Stanford Online ¹²⁷	Intermediate	Hastie and Tibshirani’s “Statistical Learning” ¹²⁸ , the lectures for ISLR.
Mutual Information ¹²⁹	Intermediate	Statistical ¹³⁰ and information-theoretic ¹³¹ foundations of ML.
Julia Silge ¹³²	Intermediate	Screencasts of modelling real data with tidymodels ¹³³ in R, such as lasso regression ¹³⁴ .
Posit PBC ¹³⁵	Intermediate	Talks and tutorials on R, Quarto ¹³⁶ , Shiny and the tidyverse ¹³⁷ .

¹⁰⁵<https://www.youtube.com/@BrandonFoltz>¹⁰⁶<https://www.youtube.com/watch?v=ZkjP5RJLQF4>¹⁰⁷<https://www.youtube.com/watch?v=0Vj2V2qRU10>¹⁰⁸<https://www.youtube.com/watch?v=zAULhNrnuL4>¹⁰⁹<https://www.youtube.com/@very-normal>¹¹⁰<https://www.youtube.com/watch?v=cXfqCcVxy4E>¹¹¹<https://www.youtube.com/watch?v=3jP4H0kjtng>¹¹²<https://www.youtube.com/watch?v=CFVKAf1AbOg>¹¹³<https://www.youtube.com/@ritvikmath>¹¹⁴https://www.youtube.com/playlist?list=PLvcbyYUQ5t0UHOlnBzl46_Q6QKtFgfMGc3¹¹⁵<https://www.youtube.com/playlist?list=PLvcbyYUQ5t0UEkf2NUEo7XSsyVTyeEk3Gq>¹¹⁶https://www.youtube.com/watch?v=yApmR-c_hKU¹¹⁷<https://www.youtube.com/@SpartacanUsuals>¹¹⁸<https://www.youtube.com/watch?v=yvWlpwnT1nw>¹¹⁹https://www.youtube.com/watch?v=zTG13T_zZyk¹²⁰<https://www.youtube.com/@rmcelreath>¹²¹<https://www.youtube.com/playlist?list=PLDcUM9US4XdNOlqSyhe38US8mFgmqzI14>¹²²<https://www.youtube.com/watch?v=sTieMzOcreQ>¹²³<https://www.youtube.com/@harvard>¹²⁴<https://www.youtube.com/watch?v=KbB0FjPg0mw>¹²⁵<https://www.youtube.com/@mitocw>¹²⁶https://www.youtube.com/watch?v=VPZD_aj8H0¹²⁷<https://www.youtube.com/@stanfordonline>¹²⁸<https://www.youtube.com/watch?v=LvySJGj-88U>¹²⁹https://www.youtube.com/@Mutual_Information¹³⁰<https://www.youtube.com/playlist?list=PLzvYlJMoZ02BCWFTETETiupwhDBpP4gw-q>¹³¹<https://www.youtube.com/watch?v=2gTrsLVnp9c>¹³²<https://www.youtube.com/@JuliaSilge>¹³³<https://www.youtube.com/watch?v=z57i2GVcdww>¹³⁴<https://www.youtube.com/watch?v=R32AsuKICAY>¹³⁵<https://www.youtube.com/@PositPBC>¹³⁶https://www.youtube.com/playlist?list=PL9HYL-VRX0oQI8fVioFxmTBrViFnRX_Df¹³⁷<https://www.youtube.com/watch?v=KsBBRHAGAhM>

3 Artificial intelligence

Methods are under [Machine learning](#); this list covers large language models, reinforcement learning, AI safety, and the research field.

Table 3: AI channels, with level and what each is good for.

Channel	Level	Good for
3Blue1Brown ¹³⁸	Intro	Visual explanations of how transformers ¹³⁹ and LLMs ¹⁴⁰ work, from attention ¹⁴¹ to next-token prediction.
Andrej Karpathy ¹⁴²	Intro	“Intro to Large Language Models ¹⁴³ ” and “Deep Dive into LLMs ¹⁴⁴ ” for anyone; “Let’s build GPT ¹⁴⁵ ” for coders.
Google DeepMind ¹⁴⁶	Intermediate	David Silver’s reinforcement learning course ¹⁴⁷ , the UCL x DeepMind lectures ¹⁴⁸ , and research talks.
Stanford Online ¹⁴⁹	Intermediate	CS221 ¹⁵⁰ (AI principles), CS224N ¹⁵¹ (NLP with deep learning), CS234 ¹⁵² (reinforcement learning).
MIT OpenCourseWare ¹⁵³	Intermediate	Patrick Winston’s 6.034 Artificial Intelligence ¹⁵⁴ , a classic survey of the field.
Hugging Face ¹⁵⁵	Intermediate	Courses ¹⁵⁶ and tutorials ¹⁵⁷ on transformers, fine-tuning and open models.
Umar Jamil ¹⁵⁸	Advanced	Coding LLM components (attention ¹⁵⁹ , LoRA ¹⁶⁰ , RLHF ¹⁶¹) from scratch.
Robert Miles AI Safety ¹⁶²	General	Clear introductions to AI alignment problems: specification gaming ¹⁶³ , reward hacking ¹⁶⁴ , mesa-optimization ¹⁶⁵ .
Anthropic ¹⁶⁶	General	An AI lab’s talks and interviews on interpretability ¹⁶⁷ , alignment ¹⁶⁸ and AI policy ¹⁶⁹ .

¹³⁸<https://www.youtube.com/@3blue1brown>
¹³⁹<https://www.youtube.com/watch?v=wjZofJX0v4M>
¹⁴⁰<https://www.youtube.com/watch?v=LPZh9BOjkQs>
¹⁴¹<https://www.youtube.com/watch?v=eMlx5ffNoYc>
¹⁴²<https://www.youtube.com/@AndrejKarpathy>
¹⁴³https://www.youtube.com/watch?v=zjkBMFhNj_g
¹⁴⁴<https://www.youtube.com/watch?v=7xTGNLPLPyMI>
¹⁴⁵<https://www.youtube.com/watch?v=kCc8FmEb1nY>
¹⁴⁶<https://www.youtube.com/@googledeepmind>
¹⁴⁷<https://www.youtube.com/watch?v=2pWv7GOvuf0>
¹⁴⁸<https://www.youtube.com/watch?v=TCCjZe0y4Qc>
¹⁴⁹<https://www.youtube.com/@stanfordonline>
¹⁵⁰https://www.youtube.com/playlist?list=PLoROMvodv4rMeDqwS1yFl3j3sR_-MQNEN
¹⁵¹<https://www.youtube.com/watch?v=DzpHeXVSC5I>
¹⁵²<https://www.youtube.com/watch?v=WsvFL-LjA6U>
¹⁵³<https://www.youtube.com/@mitocw>
¹⁵⁴https://www.youtube.com/playlist?list=PLUl4u3cNGP63gFHB6xb-kVBiQHYe_4hSi
¹⁵⁵<https://www.youtube.com/@HuggingFace>
¹⁵⁶https://www.youtube.com/playlist?list=PLo2EIPI_JMQvWfQndUesu0nPBAZ9gP1o
¹⁵⁷<https://www.youtube.com/watch?v=u--UVvH-LIQ>
¹⁵⁸<https://www.youtube.com/@umarjamilai>
¹⁵⁹<https://www.youtube.com/watch?v=bCz4OMemCcA>
¹⁶⁰<https://www.youtube.com/watch?v=PXWYUTMt-AU>
¹⁶¹<https://www.youtube.com/watch?v=qGyFrqc34yc>
¹⁶²<https://www.youtube.com/@RobertMilesAI>
¹⁶³<https://www.youtube.com/watch?v=nKJIF-olKmg>
¹⁶⁴<https://www.youtube.com/watch?v=92qDft8pENs>
¹⁶⁵<https://www.youtube.com/watch?v=bJLcIBixGj8>
¹⁶⁶<https://www.youtube.com/@anthropic-ai>
¹⁶⁷<https://www.youtube.com/watch?v=fGKNUvivvnc>
¹⁶⁸<https://www.youtube.com/watch?v=9eXV64O2Xp8>
¹⁶⁹<https://www.youtube.com/watch?v=b1-OuHWu88Y>

Table 3: AI channels, with level and what each is good for.

Channel	Level	Good for
AI Explained ¹⁷⁰	General	Careful coverage of new model releases ¹⁷¹ and benchmarks ¹⁷² , reading the papers rather than the press.
Yannic Kilcher ¹⁷³	Research	Paper walk-throughs, including the landmark LLM and RL papers: Attention Is All You Need ¹⁷⁴ , GPT-3 ¹⁷⁵ and learning to summarize from human feedback ¹⁷⁶ .
Machine Learning Street Talk ¹⁷⁷	Research	In-depth interviews on reasoning ¹⁷⁸ , generalization ¹⁷⁹ and AI risk ¹⁸⁰ .
Dwarkesh Patel ¹⁸¹	General	Long, well-prepared interviews with AI researchers and lab leaders, such as Ilya Sutskever ¹⁸² , Dario Amodei ¹⁸³ and Demis Hassabis ¹⁸⁴ .
Lex Fridman ¹⁸⁵	General	Long-form interviews; the early episodes and his MIT deep learning lectures (basics ¹⁸⁶ , state of the art ¹⁸⁷) are the AI-relevant part.
Artem Kirsanov ¹⁸⁸	Intermediate	Computational neuroscience and its links to AI (Hopfield networks ¹⁸⁹ , predictive coding ¹⁹⁰); see his AI and machine learning playlist ¹⁹¹ .

4 Computer science

Table 4: Computer science channels, with level and what each is good for.

Channel	Level	Good for
CS50 ¹⁹²	Intro	Harvard’s CS50 lectures, including CS50 Python ¹⁹³ and CS50 AI ¹⁹⁴ .
MIT OpenCourseWare ¹⁹⁵	Intermediate	6.006 (algorithms) ¹⁹⁶ , 6.046 (design and analysis of algorithms) ¹⁹⁷ , 6.042 (math for CS) ¹⁹⁸ .

¹⁷⁰<https://www.youtube.com/@aiexplained-official>

¹⁷¹<https://www.youtube.com/watch?v=WLdBimUS1IE>

¹⁷²https://www.youtube.com/watch?v=2_DPnzoHaY

¹⁷³<https://www.youtube.com/@YannicKilcher>

¹⁷⁴<https://www.youtube.com/watch?v=iDulhoQ2pro>

¹⁷⁵<https://www.youtube.com/watch?v=SY5PvZrJhLE>

¹⁷⁶<https://www.youtube.com/watch?v=vLTmnaMpQCs>

¹⁷⁷<https://www.youtube.com/@MachineLearningStreetTalk>

¹⁷⁸<https://www.youtube.com/watch?v=XFMk0snybAc>

¹⁷⁹https://www.youtube.com/watch?v=J0p_thJJnoo

¹⁸⁰<https://www.youtube.com/watch?v=BGvQmHd4QPE>

¹⁸¹<https://www.youtube.com/@DwarkeshPatel>

¹⁸²<https://www.youtube.com/watch?v=aR20FWCCjAs>

¹⁸³<https://www.youtube.com/watch?v=n1E9IZfvGMA>

¹⁸⁴<https://www.youtube.com/watch?v=qTogNUV3CAI>

¹⁸⁵<https://www.youtube.com/@lexfridman>

¹⁸⁶<https://www.youtube.com/watch?v=O5xeyoRL95U>

¹⁸⁷<https://www.youtube.com/watch?v=0VH1Lim8gL8>

¹⁸⁸<https://www.youtube.com/@ArtemKirsanov>

¹⁸⁹<https://www.youtube.com/watch?v=1WPJdAW-sFo>

¹⁹⁰<https://www.youtube.com/watch?v=l-OLgbdZ3kk>

¹⁹¹<https://www.youtube.com/playlist?list=PLgtmMKE4spCPsxyMpg-sxf3EcbsFYIzPK>

¹⁹²<https://www.youtube.com/@cs50>

¹⁹³<https://www.youtube.com/playlist?list=PLhQjrBD2T3817j24-GogXmWqO5Q5vYy0V>

¹⁹⁴<https://www.youtube.com/playlist?list=PLKmjPpOLOqOjyHmH4ex1Evt92-HMD4aPF>

¹⁹⁵<https://www.youtube.com/@mitocw>

¹⁹⁶<https://www.youtube.com/playlist?list=PLU14u3cNGP63EdVPNLG3ToM6LaEUuStEY>

¹⁹⁷<https://www.youtube.com/playlist?list=PLU14u3cNGP6317WaSNfmCvGym2ucw3oGp>

¹⁹⁸https://www.youtube.com/playlist?list=PLU14u3cNGP60UlabZBeeqOuoLuj_KNphQ

Table 4: Computer science channels, with level and what each is good for.

Channel	Level	Good for
Missing Semester ¹⁹⁹	Intro	MIT’s “Missing Semester”: the shell ²⁰⁰ , git ²⁰¹ , editors, debugging ²⁰² ; useful before any data course.
freeCodeCamp.org ²⁰³	Intro	Full-length courses on Python ²⁰⁴ , SQL ²⁰⁵ , git, data structures ²⁰⁶ and ML tooling.
Computerphile ²⁰⁷	General	Short interviews with CS researchers on algorithms ²⁰⁸ , security ²⁰⁹ , AI and theory ²¹⁰ .
Abdul Bari ²¹¹	Intermediate	Algorithms ²¹² by hand on a whiteboard: complexity, dynamic programming ²¹³ , graphs ²¹⁴ .
WilliamFiset ²¹⁵	Intermediate	Data structures ²¹⁶ and graph algorithms ²¹⁷ with animations and code.
Reducible ²¹⁸	Intro	Animated explanations of algorithms such as the FFT ²¹⁹ , compression ²²⁰ and PageRank ²²¹ .
Spanning Tree ²²²	Intro	Animated explainers on algorithms ²²³ and how computers work ²²⁴ .
Ben Eater ²²⁵	Intermediate	Building an 8-bit computer ²²⁶ and networking ²²⁷ from the hardware up.
Core Dumped ²²⁸	Intro	Operating systems ²²⁹ and memory ²³⁰ explained with animations.
Low Level ²³¹	Intermediate	C ²³² , memory safety ²³³ and systems security ²³⁴ .
CMU Database Group ²³⁵	Intermediate	Andy Pavlo’s database systems courses (15-445/645 ²³⁶ , 15-721 ²³⁷).

¹⁹⁹<https://www.youtube.com/@MissingSemester>²⁰⁰<https://www.youtube.com/watch?v=MSgoeuMqUmU>²⁰¹<https://www.youtube.com/watch?v=9K8lB61dl3Y>²⁰²<https://www.youtube.com/watch?v=8VYT9TcUmKs>²⁰³<https://www.youtube.com/@freecodecamp>²⁰⁴<https://www.youtube.com/watch?v=8DvywoWv6fI>²⁰⁵<https://www.youtube.com/watch?v=HXV3zeQKqGY>²⁰⁶<https://www.youtube.com/watch?v=RBSGKlAvoiM>²⁰⁷<https://www.youtube.com/@Computerphile>²⁰⁸<https://www.youtube.com/watch?v=GazC3A4OQTE>²⁰⁹https://www.youtube.com/watch?v=GSIDS_lvRv4²¹⁰<https://www.youtube.com/playlist?list=PLzH6n4zXuckpkgSrHX87sDCmEZSumytL3>²¹¹https://www.youtube.com/@abdul_bari²¹²https://www.youtube.com/playlist?list=PLDN4rrl48XKpZkf03iYFl-O29szjTrs_O²¹³<https://www.youtube.com/watch?v=5dRGRueKU3M>²¹⁴<https://www.youtube.com/watch?v=pcKY4hjDrxk>²¹⁵<https://www.youtube.com/@WilliamFiset-videos>²¹⁶<https://www.youtube.com/playlist?list=PLDV1Zeh2NRsB6SWUrDFW2RmDotAfPbeHu>²¹⁷<https://www.youtube.com/playlist?list=PLDV1Zeh2NRsDGO4--qE8yH72HFL1Km93P>²¹⁸<https://www.youtube.com/@Reducible>²¹⁹<https://www.youtube.com/playlist?list=PLpXOY-RxVRTNBfxhIuqoZcWtg-JZKCKtX>²²⁰<https://www.youtube.com/playlist?list=PLpXOY-RxVRTOR1PAAtQUwoZN2tSs1ICSk7>²²¹<https://www.youtube.com/watch?v=JGQe4kiPnrU>²²²<https://www.youtube.com/@SpanningTree>²²³https://www.youtube.com/watch?v=EFg3u_E6eHU²²⁴<https://www.youtube.com/playlist?list=PLZErML25eQ-Mcq6BkEuHafIvDJ3ngzx98>²²⁵<https://www.youtube.com/@BenEater>²²⁶<https://www.youtube.com/playlist?list=PLowKtXNTByGqImE405J2565dvjafgIHU>²²⁷https://www.youtube.com/playlist?list=PLowKtXNTByH19whXTVoG3oKSuOcw_XeW²²⁸<https://www.youtube.com/@CoreDumped>²²⁹<https://www.youtube.com/playlist?list=PL9vTTBa7QaQPdvEuMTqS9McY-ieaweU8M>²³⁰<https://www.youtube.com/watch?v=Zmtxl7LZwjQ>²³¹<https://www.youtube.com/@LowLevelTV>²³²https://www.youtube.com/watch?v=2ybLD6_2gKM²³³https://www.youtube.com/watch?v=lxUYZVX_FjQ²³⁴<https://www.youtube.com/watch?v=qpyRz5lkRjE>²³⁵<https://www.youtube.com/@CMUDatabaseGroup>²³⁶<https://www.youtube.com/watch?v=otE2WvX3XdQ>²³⁷<https://www.youtube.com/watch?v=NLycrsJlJ18>

Table 4: Computer science channels, with level and what each is good for.

Channel	Level	Good for
Sebastian Lague ²³⁸	General	Coding adventures in simulation ²³⁹ , graphics ²⁴⁰ and procedural generation ²⁴¹ ; good for motivation.
NeetCode ²⁴²	Intro	Algorithm interview problems ²⁴³ solved and explained in Python.
Fireship ²⁴⁴	General	Fast overviews of languages and tools (“in 100 seconds” ²⁴⁵).
Simons Institute for the Theory of Computing ²⁴⁶	Research	Theoretical CS workshops: complexity ²⁴⁷ , cryptography ²⁴⁸ , learning theory ²⁴⁹ .

5 Mathematics

Table 5: Mathematics channels, with level and what each is good for.

Channel	Level	Good for
3Blue1Brown ²⁵⁰	Intro	“Essence of linear algebra” ²⁵¹ and “Essence of calculus” ²⁵² : the geometric intuition behind DATA 571’s math.
Khan Academy ²⁵³	Intro	Calculus ²⁵⁴ , linear algebra ²⁵⁵ and multivariable calculus ²⁵⁶ at an introductory pace.
Professor Leonard ²⁵⁷	Intro	Full-length calculus 1 ²⁵⁸ , calculus 2 ²⁵⁹ and statistics ²⁶⁰ lectures, very thorough.
Dr. Trefor Bazett ²⁶¹	Intro	Calculus ²⁶² , linear algebra ²⁶³ , discrete math and probability ²⁶⁴ , with visual explanations.
MIT OpenCourseWare ²⁶⁵	Intermediate	Gilbert Strang’s 18.06 (linear algebra) ²⁶⁶ and 18.065 (matrix methods in data analysis and ML) ²⁶⁷ .

²³⁸<https://www.youtube.com/@SebastianLague>

²³⁹https://www.youtube.com/playlist?list=PLFt_AvWsXl0dJrPelwdVSMVC_MDTYPJWn

²⁴⁰https://www.youtube.com/playlist?list=PLFt_AvWsXl0dlgwe4JQ0oZuleqOTjmoX3

²⁴¹https://www.youtube.com/playlist?list=PLFt_AvWsXl0cONs3T0By4puYy6GM22ko8

²⁴²<https://www.youtube.com/@NeetCode>

²⁴³<https://www.youtube.com/playlist?list=PLot-Xpze53lfJINm5S0fq3AmoyugNGqPk>

²⁴⁴<https://www.youtube.com/@Fireship>

²⁴⁵<https://www.youtube.com/playlist?list=PL0vfts4VzfNi1BsIK5u7LpPaIDKMJIDN>

²⁴⁶<https://www.youtube.com/@SimonsInstitute>

²⁴⁷<https://www.youtube.com/playlist?list=PLgKuh-lKre1398d4m9iBaXf8fy5Cn5hl0>

²⁴⁸https://www.youtube.com/playlist?list=PLgKuh-lKre12vDccuxf_xgO27_b1zLrhk

²⁴⁹<https://www.youtube.com/playlist?list=PLgKuh-lKre13Qge09Yf4pMIqwpLRPa1Lk>

²⁵⁰<https://www.youtube.com/@3blue1brown>

²⁵¹https://www.youtube.com/playlist?list=PLZHQObOWTQDPD3MizzM2xVFitgF8hE_ab

²⁵²<https://www.youtube.com/playlist?list=PLZHQObOWTQDMsr9K-rj53DwVRMYO3t5Yr>

²⁵³<https://www.youtube.com/@khanacademy>

²⁵⁴<https://www.youtube.com/playlist?list=PL19E79A0638C8D449>

²⁵⁵<https://www.youtube.com/playlist?list=PLFD0EB975BA0CC1E0>

²⁵⁶<https://www.youtube.com/playlist?list=PLSQL0a2vh4HC5feHa6Rc5c0wbRTx56nF7>

²⁵⁷<https://www.youtube.com/@ProfessorLeonard>

²⁵⁸<https://www.youtube.com/playlist?list=PLF797E961509B4EB5>

²⁵⁹<https://www.youtube.com/playlist?list=PLDesaqWTN6EQ2J4vgsN1HyBeRADEh4Cw->

²⁶⁰<https://www.youtube.com/playlist?list=PL5102DFDC6790F3D0>

²⁶¹<https://www.youtube.com/@DrTrefor>

²⁶²<https://www.youtube.com/playlist?list=PLHXZ9OQGMqxfT9RMcReZ4WcoVILP4k6-m>

²⁶³<https://www.youtube.com/playlist?list=PLHXZ9OQGMqxfU10tcqPNTJsb7R6BqSL06>

²⁶⁴<https://www.youtube.com/playlist?list=PLHXZ9OQGMqxfersk8fUxiUMSIx0DBqsKZS>

²⁶⁵<https://www.youtube.com/@mitocw>

²⁶⁶<https://www.youtube.com/playlist?list=PLE7DDD91010BC51F8>

²⁶⁷<https://www.youtube.com/playlist?list=PLU14u3cNGP63oMNUHXqIUcrkS2PivhN3k>

Table 5: Mathematics channels, with level and what each is good for.

Channel	Level	Good for
Oxford Mathematics ²⁶⁸	Intermediate	Undergraduate student lectures ²⁶⁹ from Oxford, including probability ²⁷⁰ , plus public lectures ²⁷¹ .
The Bright Side of Mathematics ²⁷²	Intermediate	Rigorous short series on linear algebra ²⁷³ , real analysis ²⁷⁴ , measure theory and probability theory ²⁷⁵ .
Steve Brunton ²⁷⁶	Intermediate	SVD ²⁷⁷ , Fourier analysis ²⁷⁸ , differential equations and optimization ²⁷⁹ for data science.
Michael Penn ²⁸⁰	Intermediate	Number theory ²⁸¹ , abstract algebra ²⁸² and problem solving ²⁸³ at a blackboard.
Professor Macauley ²⁸⁴	Intermediate	Visual group theory ²⁸⁵ and advanced linear algebra ²⁸⁶ lectures (Clemson).
Richard E Borcherds ²⁸⁷	Advanced	A Fields medallist's lecture courses on algebra ²⁸⁸ , geometry ²⁸⁹ and number theory ²⁹⁰ .
Mathemaniac ²⁹¹	Intro	Visual explainers on complex analysis ²⁹² , group theory ²⁹³ and topology, such as the Euler characteristic ²⁹⁴ .
Aleph 0 ²⁹⁵	Intro	Short, elegant explanations of abstract algebra ²⁹⁶ and analysis ²⁹⁷ ideas.
Mathologer ²⁹⁸	General	Deep dives into beautiful proofs ²⁹⁹ .
Numberphile ³⁰⁰	General	Interviews with mathematicians, such as Grant Sanderson of 3Blue1Brown ³⁰¹ , on accessible problems like matrix factorization ³⁰² .

²⁶⁸<https://www.youtube.com/@OxfordMathematics>²⁶⁹<https://www.youtube.com/playlist?list=PL4d5ZtfQonW0A4VHeiY0gSkX1QEraaacE>²⁷⁰<https://www.youtube.com/playlist?list=PL4d5ZtfQonW0B3qW24yAj1u1SuOvgKfP5>²⁷¹<https://www.youtube.com/playlist?list=PL4d5ZtfQonW0GETJ5JVu8CTkIrt0w1B77>²⁷²<https://www.youtube.com/@brightsideofmaths>²⁷³<https://www.youtube.com/playlist?list=PLBh2i93oe2quLc5zaxD0WHzQTGrXMwAI6>²⁷⁴https://www.youtube.com/playlist?list=PLBh2i93oe2quABbNq4L_-hyjhW8eOdgrO²⁷⁵<https://www.youtube.com/playlist?list=PLBh2i93oe2qswFOC98oSFc37-0f4S3D4z>²⁷⁶<https://www.youtube.com/@Eigensteve>²⁷⁷<https://www.youtube.com/playlist?list=PLMrJAKhIeNNSVjnsviglFoY2nXildDCcv>²⁷⁸https://www.youtube.com/playlist?list=PLMrJAKhIeNNT_Xh3Oy0Y4LTj0Oxo8GqsC²⁷⁹<https://www.youtube.com/playlist?list=PLMrJAKhIeNNS3UT10txhV70ZwIeIjkMQp>²⁸⁰<https://www.youtube.com/@MichaelPennMath>²⁸¹<https://www.youtube.com/playlist?list=PL22w63XsKjqwAgBzVfVqZNMcvKpOOAA7c>²⁸²<https://www.youtube.com/playlist?list=PL22w63XsKjqxaZ-v5N4AprggFkQXgkNoP>²⁸³https://www.youtube.com/playlist?list=PL22w63XsKjqxFtu1o4_baJ-N0eqTXkGMJ²⁸⁴<https://www.youtube.com/@ProfessorMacauley>²⁸⁵<https://www.youtube.com/playlist?list=PLwV-9DG53NDxU337smpTwm6sef4x-SCLv>²⁸⁶<https://www.youtube.com/playlist?list=PLwV-9DG53NDwKJIwF5sANj6Za7qZYyWaq>²⁸⁷<https://www.youtube.com/@richarde.borcherds7998>²⁸⁸<https://www.youtube.com/playlist?list=PL8yHsr3EFj53rSexSz7vsYt-3rpHPR3HB>²⁸⁹<https://www.youtube.com/playlist?list=PL8yHsr3EFj53j51FG6wCbQKjBgpiKa5PX>²⁹⁰<https://www.youtube.com/playlist?list=PL8yHsr3EFj53L8sMbZlhhXSAOpuZ1Fov8>²⁹¹<https://www.youtube.com/@mathemaniac>²⁹²https://www.youtube.com/playlist?list=PLDcSwjT2BF_UDdkQ3KQjX5SRQ2DLLwv0R²⁹³https://www.youtube.com/playlist?list=PLDcSwjT2BF_VuNbn8HiHZKKy59SgnIAeO²⁹⁴https://www.youtube.com/playlist?list=PLDcSwjT2BF_UsLIy3cn83NYZ6Ycvs8vdi²⁹⁵<https://www.youtube.com/@Aleph0>²⁹⁶<https://www.youtube.com/watch?v=CwvuZ8aHyH4>²⁹⁷<https://www.youtube.com/watch?v=2ptFnIj71SM>²⁹⁸<https://www.youtube.com/@Mathologer>²⁹⁹<https://www.youtube.com/watch?v=sDfzCIWpS7Q>³⁰⁰<https://www.youtube.com/@numberphile>³⁰¹<https://www.youtube.com/playlist?list=PLt5AfwLFPxWkskQnjSsp3t8Uw2XMz5xYj>³⁰²<https://www.youtube.com/watch?v=wTUSz-HSABg>

Table 5: Mathematics channels, with level and what each is good for.

Channel	Level	Good for
Stand-up Maths ³⁰³	General	Matt Parker’s playful investigations of maths in the wild, such as MENACE, a matchbox machine that learns ³⁰⁴ and Runge spikes ³⁰⁵ .
Zach Star ³⁰⁶	General	How mathematics is used in engineering and science ³⁰⁷ , such as eigenvectors and eigenvalues ³⁰⁸ .
Institute for Advanced Study ³⁰⁹	Research	Seminars and lectures from IAS, including the Theoretical Machine Learning Lecture Series ³¹⁰ and a workshop on optimization, statistics and machine learning ³¹¹ .
Isaac Newton Institute for Mathematical Sciences ³¹²	Research	Programme talks, plus organiser interviews on statistical scalability ³¹³ and prediction uncertainty in machine learning ³¹⁴ .
Institute for Pure & Applied Mathematics (IPAM) ³¹⁵	Research	UCLA’s applied-math workshops, many on ML ³¹⁶ , optimization ³¹⁷ and data science.
Fields Institute ³¹⁸	Research	Lectures and workshops in pure and applied mathematics, including the Mathematical AI Seminar ³¹⁹ and the Mathematical Foundations of AI ³²⁰ graduate course.

6 Departments and programs

These are academic units, not channels. Their course listings, seminars and research pages extend the notes beyond this course.

Table 6: Departments and programs, with what each is good for.

Unit	Good for
UC Berkeley College of Computing, Data Science, and Society ³²¹	Berkeley’s college for computing, data science and their societal context; its pages list the college’s programs, courses and research.
UC Berkeley Department of Statistics ³²²	The department’s courses, seminars and research relevant to statistical learning.

³⁰³<https://www.youtube.com/@standupmaths>

³⁰⁴https://www.youtube.com/watch?v=R9c-_neaxeU

³⁰⁵https://www.youtube.com/watch?v=F_43oTnTXiW

³⁰⁶<https://www.youtube.com/@zachstar>

³⁰⁷https://www.youtube.com/playlist?list=PLi5WqFHu_OJNN-2rHmEOy7NZRNQ43qOuu

³⁰⁸<https://www.youtube.com/watch?v=i8FukKfMKCI>

³⁰⁹<https://www.youtube.com/@videosfromIAS>

³¹⁰https://www.youtube.com/playlist?list=PLdDZb3TwJPZ5VLprf2VUfC0h1zOGvV_gz

³¹¹<https://www.youtube.com/playlist?list=PLdDZb3TwJPZ4Ri6i0MIdesIEpYK4lx17Q>

³¹²<https://www.youtube.com/@IsaacNewtonInstitute>

³¹³<https://www.youtube.com/watch?v=Jf4bD4CYHvM>

³¹⁴https://www.youtube.com/watch?v=Czr51hAQ_uk

³¹⁵<https://www.youtube.com/@IPAMUCLA>

³¹⁶<https://www.youtube.com/watch?v=PzyhtPtrhs0>

³¹⁷https://www.youtube.com/watch?v=uFyb_IHTiN8

³¹⁸<https://www.youtube.com/@fieldsinstitute>

³¹⁹<https://www.youtube.com/playlist?list=PLArBKNfJxuumIT2kUXZOEamghPnnvIHjL>

³²⁰<https://www.youtube.com/playlist?list=PLOzPT7BN8M-4>

³²¹<https://cdss.berkeley.edu/>

³²²<https://statistics.berkeley.edu/>