**GUITAR**

**Tutorial (video/book)**

**GuitraPro track**

**Impovisation (over a backing track)**

**Scales (standing up – pick one string or position for a day)**

**Exercises (guitar pro)**

**Classical guitar piece**

**Song with chords**

**Chords**

**Progressions**

**MUISC THEORY**

<https://www.youtube.com/watch?v=kvGYl8SQBJ0&list=PLGOyFbrsO-NkmwbjDHNtyJoI8pY2-2a6o>

<https://www.youtube.com/watch?v=6zyv0O7kfcc&list=PL5j5H06QkhxE0RK-Ormp3zgf5SGJ28zsj>

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**JUST WATCH (1.5 hours)**

**SQL / Hadoop**

**Calculus & Optimization & Differential Equations**

<https://www.khanacademy.org/math/ap-calculus-bc/bc-differential-equations-new/bc-7-9/v/modeling-population-with-differential-equations>

<https://www.youtube.com/watch?v=TgKwz5Ikpc8&list=PLZHQObOWTQDPD3MizzM2xVFitgF8hE_ab&index=14>

<https://www.youtube.com/watch?v=3d6DsjIBzJ4&list=PLZHQObOWTQDMsr9K-rj53DwVRMYO3t5Yr&index=11>

(optimization word problems)

<https://www.youtube.com/watch?v=yP3fd3Yy2dM&list=PLHWguCqFb_CZrd8r8fq0mSvj_3eaXJgI_>

<https://www.youtube.com/watch?v=NXoQPnxx-9c&list=PLB2FE9786A4ABC83B>

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**Multivariable Calculus**

**KhanAcademy:**

<https://www.youtube.com/watch?v=AlXVrAOls-8&list=PLSQl0a2vh4HC5feHa6Rc5c0wbRTx56nF7&index=53>

**intrigano**

<https://www.youtube.com/watch?v=_EHYTrJOkAQ&list=PL2jykFOD1AWaL4_-bdidPfIWe765jOgfL&index=24>

**Prof. Edwards**

<https://www.youtube.com/watch?v=qWkWb_UB72g&index=31&list=PLpYEaNSrmq871pp-SsMXGuax0imu7mLyy>

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**Linear Algebra**

<https://www.youtube.com/watch?v=RGfk1ifU_Gc&list=PL2jykFOD1AWazz20_QRfESiJ2rthDF9-Z&index=3>

<https://www.youtube.com/watch?v=ZKUqtErZCiU&index=1&list=PLHXZ9OQGMqxfUl0tcqPNTJsb7R6BqSLo6>

<https://www.youtube.com/watch?v=Fnfh8jNqBlg&list=PLlXfTHzgMRUKXD88IdzS14F4NxAZudSmv&index=1>

<https://www.youtube.com/watch?v=FeGVpk96UqY&list=PLdciPPorsHuk3Hp7QPPAtTkpW0o1UXQB6&index=3>

<https://www.youtube.com/watch?v=XDvSsDsLVLs&list=PLDDGPdw7e6AjJacaEe9awozSaOou-NIx_&index=27>

<https://www.youtube.com/watch?v=CdpFu7t0dJ4&index=18&list=PLAFEC355DFEADC30C>

<https://www.youtube.com/watch?v=6K7QqgTE1hw&list=PL5E46D91C0B8EA957&index=46>

**revise: 32,33, 34(PCA),36,44,45**

<https://www.youtube.com/watch?v=HAoL5fPmgrw&list=PLNr8B4XHL5kGDHOrU4IeI6QNuZHur4F86&index=1>

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**Machine Learning Theory**

<https://www.youtube.com/watch?v=gAKQOZ5zIWg&list=PLLssT5z_DsK-h9vYZkQkYNWcItqhlRJLN&index=49>

AND/OR StatQuest ML videos:

[**https://www.youtube.com/watch?v=fSytzGwwBVw&list=PLblh5JKOoLUICTaGLRoHQDuF\_7q2GfuJF&index=2**](https://www.youtube.com/watch?v=fSytzGwwBVw&list=PLblh5JKOoLUICTaGLRoHQDuF_7q2GfuJF&index=2)

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**Statistics**

**StatQuest**

**7:50**

<https://www.youtube.com/watch?v=nk2CQITm_eo&list=PLblh5JKOoLUIzaEkCLIUxQFjPIlapw8nU&index=2>

**jbstatistics**

<https://www.youtube.com/watch?v=tTeMYuS87oU&list=PLvxOuBpazmsNo893xlpXNfMzVpRBjDH67&index=1>

<https://www.youtube.com/watch?v=Mwx4wK0vpAI&index=1&list=PLhuAtLdA09bFArwhIjpC90zLaRFfneDlY>

<https://www.youtube.com/watch?v=ScduwntrMzc&list=PLTNMv857s9WU729gegxdW2e4wto2wEP4S>

<https://www.youtube.com/watch?v=BkyGuNuaZYw&list=PL568547ACA9211CCA&index=83>

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**R+statistics (one piece of information – Lynda videos) + Revision**

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**Topic Recap in Depth (an important topic from calculus, linear algebra, statistics)**

**Linear StatQuest (F,R,p)**

**ML: combine logical units into a network**

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**Java (one piece of information)**

**Python syntax / computer science / revision**

**NumpyPandasMatplotlib (one piece of information)**

**Machine Learning Practice**

**General Overview**

<https://vas3k.com/blog/machine_learning/#scroll160>

**Machine Learning Theory (Andrew Ng, Stanford)**

[**https://www.youtube.com/watch?v=IXPgm1e0IOo&list=PLLssT5z\_DsK-h9vYZkQkYNWcItqhlRJLN&index=42**](https://www.youtube.com/watch?v=IXPgm1e0IOo&list=PLLssT5z_DsK-h9vYZkQkYNWcItqhlRJLN&index=42)

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**Practical ML**

**Theoretical ML (aka statistical learning)**

**(Theoretical) Data Science (statistics+R)**

**Videos**

**Programming (Python, Java, Computer Science, Hadoop)**

**===**

**General Overview**

**github, overall info**

[**https://vas3k.com/blog/machine\_learning/**](https://vas3k.com/blog/machine_learning/)

[**https://www.youtube.com/watch?v=gHMTzdbpQTw&list=PLvxOuBpazmsND0vmkP1ECjTloiVz-pXla&index=4**](https://www.youtube.com/watch?v=gHMTzdbpQTw&list=PLvxOuBpazmsND0vmkP1ECjTloiVz-pXla&index=4)

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**Statistical Learning / Machine Learning**

**Math4IQB**

<https://www.youtube.com/user/Math4IQB/videos?sort=da&view=0&flow=grid>

**Machine Learning — Andrew Ng, Stanford:**

<https://www.youtube.com/watch?v=GtSf2T6Co80&list=PLLssT5z_DsK-h9vYZkQkYNWcItqhlRJLN&index=10>

**Foundations of Machine Learning - Bloomberg**

[**https://www.youtube.com/watch?v=MsD28INtSv8&list=PLnZuxOufsXnvftwTB1HL6mel1V32w0ThI&index=1**](https://www.youtube.com/watch?v=MsD28INtSv8&list=PLnZuxOufsXnvftwTB1HL6mel1V32w0ThI&index=1)

**Statistical Machine Learning CMU:**

[**https://www.youtube.com/watch?v=zcMnu-3wkWo&list=PLTB9VQq8WiaCBK2XrtYn5t9uuPdsNm7YE**](https://www.youtube.com/watch?v=zcMnu-3wkWo&list=PLTB9VQq8WiaCBK2XrtYn5t9uuPdsNm7YE)

**Machine Learning Theory – mathematicalmonk:**

<https://www.youtube.com/watch?v=qX7n53NWYI4&list=PLD0F06AA0D2E8FFBA&index=47>

**The Math of Intelligence - Siraj Raval**

<https://www.youtube.com/watch?v=ov_RkIJptwE&index=7&list=PL2-dafEMk2A7mu0bSksCGMJEmeddU_H4D>

**Statistical Learning with Applications in R:**

<https://www.youtube.com/watch?v=3jQs02dbfrI&list=PL06ytJZ4Ak1rXmlvxTyAdOEfiVEzH00IK&index=1>

<https://www.youtube.com/channel/UCpyPuMAyBvERU8YMngGy11g/playlists>

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**Discrete Math / Higher Maths**

**00:00**

<https://www.youtube.com/watch?v=FHL4udeLf9Q&list=PLZzHxk_TPOStgPtqRZ6KzmkUQBQ8TSWVX&index=14>

<https://www.youtube.com/watch?v=ubgRYEwlU-4&index=6&list=PLw8gwdX8oi1UIeyhpWFPcsP2BkgE2afit>

<https://www.youtube.com/watch?v=L5uBeAGJV1k&index=14&list=PLUl4u3cNGP60UlabZBeeqOuoLuj_KNphQ>

<https://www.youtube.com/watch?v=PifpQXYSot4&index=2&list=PLkyBCj4JhHt8CID9Kz9dcxnoK9rg6f9hW>

<https://www.youtube.com/watch?v=CMWFmjlB8v0&list=PLZzHxk_TPOStgPtqRZ6KzmkUQBQ8TSWVX&index=1>

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**Big Data & Hadoop (Terrace)**

**xx:00**

<https://www.youtube.com/watch?v=ggWmwacbdqU&index=9&list=PLwwk4BHih4fgJxD7b_hMWfNxVyFLObU5U>

finish Lynda

Udacity(ok one)

<https://www.youtube.com/watch?v=YoNKbqRyxRY&index=64&list=PLAwxTw4SYaPkXJ6LAV96gH8yxIfGaN3H->

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**PROGRAMMING SKILLS**

**Hands-On ML with Python**

**Machine Learning A-Z - Hands On Python and R In Data Science**

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**Statistics with R 60 min**

**revision**

**book**

**video**

*later: ggplot&tidyverse*

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**Computer Science**

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**Programming: Python**

**revision**

**book**

**(video)**

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**Programming: Java**

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**SQL, Hadoop**

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**Hands-On Data Wrangling and Visualization: NumpyPandas (and later with R ggplot+tidverse)**

**book**

**video**

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**Practical Data Wrangling+Analysis**

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**Neural Networks**

[**https://www.youtube.com/watch?v=BR9h47Jtqyw**](https://www.youtube.com/watch?v=BR9h47Jtqyw)

[**https://www.youtube.com/watch?v=uXt8qF2Zzfo**](https://www.youtube.com/watch?v=uXt8qF2Zzfo)

[**https://www.youtube.com/watch?v=ILsA4nyG7I0**](https://www.youtube.com/watch?v=ILsA4nyG7I0)

[**https://www.youtube.com/watch?v=d14TUNcbn1k**](https://www.youtube.com/watch?v=d14TUNcbn1k)

**playlists:**

[**https://www.youtube.com/watch?v=UNmqTiOnRfg&list=PLs8w1Cdi-zvavXlPXEAsWIh4Cgh83pZPO**](https://www.youtube.com/watch?v=UNmqTiOnRfg&list=PLs8w1Cdi-zvavXlPXEAsWIh4Cgh83pZPO)

[**https://www.youtube.com/watch?v=aiDv1NPdXvU&list=PLWi7UcbOD\_0vc\_rSRgHAyKig2eMdMTRyo**](https://www.youtube.com/watch?v=aiDv1NPdXvU&list=PLWi7UcbOD_0vc_rSRgHAyKig2eMdMTRyo)

[**https://www.youtube.com/watch?v=bH6VnezBZfI&list=PLaXDtXvwY-oDvedS3f4HW0b4KxqpJ\_imw&t=0s&index=26**](https://www.youtube.com/watch?v=bH6VnezBZfI&list=PLaXDtXvwY-oDvedS3f4HW0b4KxqpJ_imw&t=0s&index=26)

[**https://www.youtube.com/watch?v=GvQwE2OhL8I&list=PLoYCgNOIyGABWLy\_XoLSxTVRe2bltV8GM&index=3**](https://www.youtube.com/watch?v=GvQwE2OhL8I&list=PLoYCgNOIyGABWLy_XoLSxTVRe2bltV8GM&index=3)

[**https://www.youtube.com/watch?v=bVQUSndDllU&list=PLFt\_AvWsXl0frsCrmv4fKfZ2OQIwoUuYO**](https://www.youtube.com/watch?v=bVQUSndDllU&list=PLFt_AvWsXl0frsCrmv4fKfZ2OQIwoUuYO)

[**https://www.youtube.com/watch?v=aircAruvnKk&list=PLZHQObOWTQDNU6R1\_67000Dx\_ZCJB-3pi**](https://www.youtube.com/watch?v=aircAruvnKk&list=PLZHQObOWTQDNU6R1_67000Dx_ZCJB-3pi)

[**https://www.youtube.com/watch?v=bxe2T-V8XRs&list=PLiaHhY2iBX9hdHaRr6b7XevZtgZRa1PoU**](https://www.youtube.com/watch?v=bxe2T-V8XRs&list=PLiaHhY2iBX9hdHaRr6b7XevZtgZRa1PoU)

[**https://www.youtube.com/watch?v=gZmobeGL0Yg&list=PLZbbT5o\_s2xq7LwI2y8\_QtvuXZedL6tQU**](https://www.youtube.com/watch?v=gZmobeGL0Yg&list=PLZbbT5o_s2xq7LwI2y8_QtvuXZedL6tQU)

[**https://www.youtube.com/watch?v=1ZhtwInuOD0&index=43&list=PLLssT5z\_DsK-h9vYZkQkYNWcItqhlRJLN**](https://www.youtube.com/watch?v=1ZhtwInuOD0&index=43&list=PLLssT5z_DsK-h9vYZkQkYNWcItqhlRJLN)

[**https://www.youtube.com/watch?v=OVwEeSsSCHE&list=PLLssT5z\_DsK\_gyrQ\_biidwvPYCRNGI3iv**](https://www.youtube.com/watch?v=OVwEeSsSCHE&list=PLLssT5z_DsK_gyrQ_biidwvPYCRNGI3iv)

[**https://www.youtube.com/results?search\_query=Neural+Networks**](https://www.youtube.com/results?search_query=Neural+Networks)

[**https://www.youtube.com/results?search\_query=multilayer+perceptron**](https://www.youtube.com/results?search_query=multilayer+perceptron)

[**https://www.youtube.com/watch?v=P2HPcj8lRJE&index=2&list=PLjJh1vlSEYgvGod9wWiydumYl8hOXixNu**](https://www.youtube.com/watch?v=P2HPcj8lRJE&index=2&list=PLjJh1vlSEYgvGod9wWiydumYl8hOXixNu)