**Data Science/Machine Learning/Deep Learning**

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**Essential Topics of Math to learn #DataScience and #MachineLearning:**

Breakdown of Importance

Linear Algebra (35%)

Statistics & Probability (25%)

Calculus (15%)

Optimization & Algorithms (15%)

Other (10%)

➤ Linear Algebra

Matrices, Vectors, Eigenvalues/Eigenvectors, Linear Transformations & Equations

<https://lnkd.in/gW6_F_3>

➤ Inferential Statistics

Sampling Distribution, Central Limit Theorem, Hypothesis Testing, Types of Errors, ANOVA, Chi-Square, T-Test

<https://lnkd.in/gbh3aRj>

➤ Probability Theory

Random Variables, Types of Distributions, Sampling, Conf. Intervals, Z Scores

<https://lnkd.in/gJ442c8>

➤ Basic Calculus

<https://lnkd.in/gEUFDaS>

➤ Linear Programming

Formulating a Real Problem to a Mathematical Model

<https://lnkd.in/gGBpjaK>

➤ Optimization

Gradient Algorithms & Objective Functions

<https://lnkd.in/g_e9sJu>

➤ Graph Theory

Trees, Nodes, Edges

<https://lnkd.in/gYUgBhA>

➤ Data Structures

<https://lnkd.in/gT_8_Fc>

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**Presentation about Machine Learning**

Slides by Jason Mayes - <https://lnkd.in/gNFyV5u>

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**Machine Learning Glossary**

Google machine learning in handy - <https://lnkd.in/gNiE9JT>

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**List of 8 Essential Algorithms for Machine Learning:**

1. Logistic Regression

<https://lnkd.in/gJ2BwhD>

2. Linear Regression

<https://lnkd.in/gdZDbT5>

3. Decision Trees

<https://lnkd.in/gwadA-p>

4. Random Forests

<https://lnkd.in/gRYHcvt>

5. Neural Networks

<https://lnkd.in/gZQhWyv>

6. Bayesian Techniques

<https://lnkd.in/gY3qVYP>

7. Support Vector Machines

<https://lnkd.in/gWJKRyn>

8. Gradient Boosting Machine

<https://lnkd.in/gv85yDV>

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**9 Must-Watch Deep Learning Videos to get INSPIRED by:**

1. DeepMind’s AI Creates Images From Your Sentence

<https://lnkd.in/g-kHVh9>

2. DeepMind’s AI Learns Locomotion From Scratch

<https://lnkd.in/gXscmM8>

3. DeepMind’s AI Beats AlphaGo

<https://lnkd.in/g8JxYgJ>

4. Bot Beats DOTA World Champion

<https://lnkd.in/gHDzqQD>

5. NVIDIA's AI Dreams Up Imaginary Celebrities

<https://lnkd.in/ghqYEUu>

6. Algorithmic Beautification of Selfies

<https://lnkd.in/gUhS2bK>

7. Deep Neural Network Learns Van Gogh's Art

<https://lnkd.in/gbr_F-2>

8. AI Creates Facial Animation From Audio

<https://lnkd.in/gWwV3jC>

9. Image Synthesis From Text w/ Deep Learning

<https://lnkd.in/gRG4b2K>

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