**Math for ML Notes**

| **Cheatsheet** | [Maths for ML.pdf](https://drive.google.com/file/d/16di6lCnvjSFNaTOGT401Qly2yztX2f5K/view?usp=sharing) |
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| **Consolidated Notes - Docs** | [Maths for ML Revision.pdf](https://drive.google.com/file/d/1jjdnZ0YLfjH1F0IKpWuj_iYvKiR5K9fB/view?usp=sharing) |
| **Consolidated Colab** | [Maths4ML.ipynb](https://colab.research.google.com/drive/10WQ9FVDVFEXPHMei5UGFHKeHgaCxKxui?usp=drive_link) |

| **Lecture Wise Notes** | |
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| **Topic** | **Colab** |
| **The ML Context** | [Linear Algebra 1 The ML Context\_script.ipynb](https://colab.research.google.com/drive/1RwX3HBOrPOFR_c_h78rpqXyArTYfFWBq?ouid=116348221161635752337&usp=drive_link) |
| **Dot products and hyperplanes** | [Linear Algebra 2 - Dot products and hyperplanes.ipynb](https://colab.research.google.com/drive/1pB7k3SRIt84V_JnHTugFm9e3ami6hEuV?ouid=116348221161635752337&usp=drive_link) |
| **Halfspaces And Distance** | [Linear Algebra 3 Halfspaces And Distance.ipynb](https://colab.research.google.com/drive/1U6VEQghvjm6gkrk5bt8CsKwLj2ibUOLs?ouid=116348221161635752337&usp=drive_link) |
| **Loss minimization in classification** | [Linear Algebra 4 - Loss minimization in classification.ipynb](https://colab.research.google.com/drive/1ADvKMAKC9BuacJ6bXOs6mlD0ujLjmWgz?ouid=116348221161635752337&usp=drive_link) |
| **Problem solving** | [Linear Algebra 5 - Problem solving.ipynb](https://colab.research.google.com/drive/1ZP32KzfbuNS3S6iMu0uCURs7Nsd_qo6V?ouid=116348221161635752337&usp=drive_link) |
| **The Need For Calculus In ML** | [Optimization 1 The Need For Calculus In ML.ipynb](https://colab.research.google.com/drive/1e0AeSFJNAQ4-sPAxgGeQHBCUbacyextV?ouid=116348221161635752337&usp=drive_link) |
| **Towards Gradient Descent** | [Optimization 2 Towards Gradient Descent.ipynb](https://colab.research.google.com/drive/14IOsFhUydV512tr3H9jnwy8hRDR8QBlk?ouid=116348221161635752337&usp=drive_link) |
| **Gradient Descent In Action** | [Optimization 3 Gradient Descent In Action.ipynb](https://colab.research.google.com/drive/1hWoLEhL1qmAvgsTdiEq_Q0Sv_83gT-C_?ouid=116348221161635752337&usp=drive_link) |
| **Constrained Optimization** | [Optimization 4 Constrained Optimization.ipynb](https://colab.research.google.com/drive/1eQes_0SyyA3jGFVqkZX7acOSdvWdUg1o?ouid=116348221161635752337&usp=drive_link) |
| **Principal component analysis** | [Optimization 5 - Principal component analysis.ipynb](https://colab.research.google.com/drive/1MYYIeeIFm1AKV-8M55r7DfOPkF0U7Xgu?ouid=116348221161635752337&usp=drive_link) |