# Notes on the Principles of Deep Learning Theory by Daniel Roberts and Sho Yaida

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## Summary of the Main Results Obtained in the Book

The predictions of networks are described by nearly-Gaussian distributions, with the depth-to-width aspect ratio of the network controlling the deviations from the infinite-width Gaussian description. We explain how these effectively-deep networks learn nontrivial representations from training and more broadly analyze the mechanism of representation learning for nonlinear models.

## Introductory Notes

## References

[The Principles of Deep Learning Theory: An Effective Theory Approach to Understanding Neural Networks, Daniel A. Roberts, Sho Yaida, Boris Hanin, 2021](https://github.com/dimitarpg13/information_theory_and_statistical_mechanics/blob/main/literature/books/The_Principles_of_Deep_Learning_Theory_Roberts_2021.pdf)