
Assignment III: Gauss and Beta Distribution

Exercises in Machine Learning (190.013), SS2022

Stefan Nehl¹

¹stefan-christopher.nehl@stud.unileoben.ac.at, MNR: 00935188, Montanuniversität Leoben, Austria

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In the third assignment, I had to create the abstract class `ContinuousDistribution`. This class contains functions for importing and exporting the data to CSV files, compute the mean and standard deviation, generating samples and visualize the given data. Furthermore, I had to implement two additional classes, `GaussDistribution` and `BetaDistribution` which inheritances the class `ContinuousDistribution` and implement gauss and beta distribution. Finally, I plotted the result of this distributions.

1 Introduction

The gauss and beta distributions are often used in machine learning to generate random variables. The target of this assignment was to create a module *inference* which implements this two different distributions.

2 Implementation

For the implementation I created a module with the name *inference*. In this module i implemented the abstract class `ContinuousDistribution` with it's abstract methods.

2.1 Abstract class *ContinuousDistribution*

2.2 Median

2.3 Variance

2.4 Standard Deviation

2.5 Normalize Data

2.6 Testing the functions

2.7 Loading the data

2.8 Plotting the results

3 Results

4 Conclusion

APPENDIX

Bibliography

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