Project 2: Classification and Regression, from linear and logistic regression to neural networks

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Abstract

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Introduction

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Preliminaries

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Exercise 1a): a

The heat equation

In this exercise we want to mathematically describe how heat can transfer within a rod of length L over a given time interval t. The rod will initially be heated at time $t = 0$ and the heat will decay after this time. How the heat changes as function of time and space is given by the heat equation as seen below.

$$\frac{\partial^2 u(x,t)}{\partial x^2} = \frac{\partial u(x,t)}{\partial t} \tag{1}$$

where $u(x,t)$ is the temperature at a specific time t and a position x.

Exercise 1b: b

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Exercise d): a

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Exercise e): a

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Conclusion

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Future work

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References

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