

# Deep Learning for PDEs

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# Disclaimer

# Acknowledgements

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# Introduction

# Chapter 1

## Neural Networks and Deep Learning

### 1.1 Architecture and operation of a Deep Neural Network

### 1.2 Further insights

## Chapter 2

### Application to PDEs

2.1 The Poisson-Dirichlet problem

2.2 Some more in-depth theoretical results

## Chapter 3

# Neural network implementation



# Chapter 4

## Test cases

## Conclusions and further developments

# Bibliography