

Introduction

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20 April 2024

1 Introduction

1.1 Why do we want to use category theory?

There is no unifying framework in deep learning. Category theory can provide a unifying framework for deep learning.

1.2 What is category theory?

Category theory is a branch of mathematics that studies abstract structures and relationships between them. We take birds-eye view of mathematics and study the relationships between different mathematical structures.

Compositionality is a key idea in category theory. It permits to build bridges between different fields.

Recently many researchers have started to use category theory in deep learning.