



For elementary school children...  
and not just for them!

# AI Adventures: Explore the Future

Join us on a thrilling journey to discover the magic of AI!

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**Title: AI Adventures : explore the future! : join us on a thrilling journey to discover the magic of AI**

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**Published by:** Bečov nad Teplou : Barbora Štětinová

**Date of first edition** 2024

**Number of edition:** first

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**ISBN:**

978-80-909348-3-2 (online ; pdf)

978-80-909348-4-9 (online ; ePub)

978-80-909348-7-0 (online, MOBI)

978-80-909348-6-3 (paperback)



# Introduction

Hello to all young AI enthusiasts! We are Barbora Stetinova and my son Matthew. Together, we created this book to take you on a magical adventure into the fascinating world of Artificial Intelligence (AI). As a team, we bring a blend of acquired knowledge and youthful creativity to explain some incredible technological topics!

In this booklet, you will find chapters about how computers work, the wonders of AI, including how it learns and becomes smarter over time. I, Barbora, will guide you through the theoretical parts, like machine learning and the mysteries of neural networks. Meanwhile, Matthew will share his hands-on experiences and describe his experiments with ChatGPT!

From understanding the basic building blocks of computers in our first chapter to exploring advanced concepts like generative AI and neural networks, we aim to provide you with a clear and enjoyable journey of discovery.

**Let's dive in and explore the incredible possibilities that AI offers!**

*Barbora & Matthew*



# Content

- ✱ Computers and Programming
- ✱ Artificial Intelligence
- ✱ Machine Learning
- ✱ Artificial Neural Networks
- ✱ AI workshop I
- ✱ Generative AI
- ✱ AI workshop II
- ✱ Safety



# Computers and Programming



# What is a computer

Hey kids! Before we jump into super cool stuff like AI, let's talk about something you see almost every day - a **computer**!

A computer is a bit like a super smart helper that can do tons of cool things.



It's the same as having a magical box that helps us to solve math problems, draw pictures, write stories, and even play music and videos - that's exactly what a computer does. It's like a wizard in a box that can do almost anything you can imagine!

# What is a computer

A computer is a device that can take instructions and solve tasks.

Computers come in many shapes and sizes.



There are **desktop computers**, ....



... **laptops**, which are smaller and can be carried with us,



... same as tablets and mobile phones,



.... or **embedded computers**, which can be found almost everywhere, for example in cars.



Did you know that the first computer filled an entire room?

# What are computer's components

This is the main part of the computer where all the thinking happens; it's like the brain of the computer that helps it to do all its jobs.

The monitor is the screen where you can see everything the computer is doing, the same as a TV shows your favorite cartoons.

**Desktop computer**

**Monitor**

A keyboard is full of buttons that you press to tell the computer what to write or which commands to follow.

**Keyboard**

**Mouse**

A controller is a special handle with buttons and sticks that you use to play video games on the computer, letting you move characters and make them do things.

**Controller**

A mouse is a small tool that you move around to control what happens on the computer's screen, helping you click on things to open them or play games. You can also move characters and make them do things.

# How a computer works

## The Boss: CPU (Central Processing Unit)

The CPU is the boss of the computer. It gives orders and makes sure that everything works together nicely. It takes in information, thinks about it really fast, and then decides what to do with it. It understands your commands and tells the other parts what to do.

## The Memory Keepers

- **RAM:** This is like a big, quick-access sticky note. It remembers everything the computer needs right now, similar to the game you're playing or the homework you're typing up, but it forgets it all when the computer turns off.
- **Hard Drive:** This is the computer's big filing cabinet. It keeps all your files, games, photos, and music safe, even when the computer is off.

## Eyes: Camera

The camera is the computer's eyes, enables computer to see everything around it.

## Hands: Keyboard and Mouse

- **Keyboard:** This is where you type letters and numbers to tell the computer what to write or which commands to follow, just like writing a letter.
- **Mouse:** You move the mouse to tell the computer where to go and what to click on, helping you open programs and play games.

## Ears: Microphone

The microphone is the computer's ears, allowing it to hear everything we say.

## Mouth: Speakers

The speakers are the computer's mouth, letting the computer to talk to us.



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