

## Workshop Concept – AI explained

We now offer our successful [Artificial Intelligence workshops](#) especially for Pasch students with additional modules on "[Music and AI](#)" and Large Language Models, as used in ChatGPT. Together (online or on-site) with IMAGINARY workshop leaders from Germany, participants playfully explore selected core concepts of artificial intelligence (AI). The basic methods, problems, and dilemmas of AI and machine learning will be experienced and discovered in interactive experiments. In addition to these core concepts, possible societal implications of AI are jointly developed and discussed, for example in discussion and role-playing games.



The workshops' concept is designed so that all participants – regardless of their individual previous knowledge – can be actively involved. New materials and formats (digital or analog) were developed for the workshops. Different activities were designed for use in the workshop, which are particularly suitable for language acquisition: experiments, discussion games, interactive software, thought experiments, and analogies.

We offer the following modules:

- Neural Numbers - Play, test and train a neural network
- Build your own AI - with cups, pens, and paper
- Gradient descent - Find the treasure on the floor of the ocean with and without using AI
- Autonomous vehicles - How would you decide?
- Sumory - A game with maximum taste and many restaurants
- Carrot and stick - How a robot learns through rewards
- Music and AI - Playful experiments with an AI, the computer keyboard becomes a piano
- Large language models - the methods and training data of ChatGPT (Transformer).
- Perspective AI - A discussion game about possible technologies and their implication on society

The workshops are supervised by academics who have experience in international work with schools and in particular with German as a foreign language. To date, IMAGINARY has inspired millions of visitors in over 60 countries and 30 languages with science.

# IMAGINARY

open mathematics

All materials are freely available under open licenses. The content of the workshops is based on the touring exhibition '[I AM A.I. - Artificial Intelligence Explained](#)', which is funded by the Carl Zeiss Foundation and will tour Germany until 2025. For more in-depth learning, we also offer the free online course '[AI Explorables for Schools](#)'.

Organizational matters:

<b>On-site workshop:</b> 12-15 participants from 12 years and level German A2. 2 workshop leaders. Duration of the workshop: 3.5 days. Costs: 5000,- Euro (plus travel and material costs).
<b>Online workshop "Small" 1:</b> 6-8 participants from 12 years and level German B1. 1 workshop leader. Duration of the workshop: 4 days with 2 hours of online modules and approx. 2 hours of offline activities (optional). Costs: 1500,- Euro (plus material costs).
<b>Online workshop "Large" 2:</b> 9-20 participants aged 12 and over and German B1 level. 2 workshop leaders. Duration of the workshop: 4 days with 2 hours of online modules and approx. 2 hours of offline activities (optional). Costs: 3000,- Euro (plus material costs).
<b>Online workshop "Short" 3:</b> 9-16 participants from 12 years and level German B1. 1 workshop leader. Duration of the workshop: 1 day (2x2 hours) and approx. 2 hours of offline activities (optional). Costs: 1000,- Euro (plus material costs).
<b>Online workshop "Mini" 4:</b> 9-16 participants from 12 years and level German B1. 1 workshop leader. Duration of the workshop: 90 minutes and approx. 2 hours of offline activities (optional). Costs: 700,- Euro (plus material costs).
For 3 workshops booked at the same time ( with numbers 1-3) we grant a <b>discount of 10%</b> .

We recommend that all participants have access to a computer with an internet connection. Working in groups of two is also possible.

The courses can be held in German, English, Spanish, and French (other languages might be possible on request). In addition, we can offer special "Train the Trainer" workshops for teaching staff.

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