WORLD ARTIFICIAL INTELLIGENCE COMPETITION FOR YOUTH

# WAICY
## EUROPE

## FUNDÃO, PORTUGAL
## JUNE 2025

*Jointly Organized by*

UNINOVA · Câmara Municipal · ECAIRE European Center for AI Research and Education · ReadyAi · VENTOS VERSÁTEIS · educom Associação Portuguesa de Telemática Educativa

# WAICY
World Artificial Intelligence
Competition for Youth

# COMPETITION INFO

**Organizer:** ReadyAI (USA)- https://www.readyai.org/
**Competition type:** Onsite & Online
**Competition date:** June, 2025
**Competition language:** English
**Type of participants:** Teams with 1- 5 members under the age of 18
**WAICY 2025 Organizing Team:** info@waicy.org

Registration for participation:
https://www.waicy.org/waicy-2025-europe-registration/

Competition rules:
https://www.waicy.org/rubrics-2/

## WHAT IS WAICY?

The World Artificial Intelligence Competition for Youth (WAICY) is a global competition challenging students to learn and use artificial intelligence (AI) technology to solve real world problems. WAICY is a competition where students around the world showcase their learning in artificial intelligence (AI).

## WHO CAN PARTICIPATE?

The competition is open to all students around the world under the age of 18. To participate in WAICY, students must prepare a project that showcases an AI solution for a real-world problem. There are no limitations to the format of the project (coding demo, essays, visual prototype, a robot, even artworks etc.) as long as it uses AI and addresses a societal problem. ALL YOU NEED IS AN IDEA!  Past competition topics have ranged from recycling, senior care, to cookie-baking.

Watch WAICY 2024 here: https://youtu.be/nwGOfJeAWFU
Watch WAICY 2023 here: https://youtu.be/BC1DWHuE76s
Watch WAICY 2022 here: https://youtu.be/ThVOO5RZptU
Watch WAICY 2021 here: https://youtu.be/dakZ_NymM0g
Watch WAICY 2020 here: https://youtu.be/zgWMxcvLJKs
Watch WAICY 2019 here: https://youtu.be/L-IGz0CyhMg
Watch WAICY 2018 here: https://youtu.be/s2VS0KHDGS8

# HOW DOES IT GO?

This year we have four tracks that you can participate in. Prepare your AI project based on the requirement of each track and submit your project online! If selected, teams will present live on WAICY Day, scheduled for December 6th - 8th. The presentation comprises a 3-minute presentation a 3-minute demo, followed by a 4 minute Q&A session with the judges. Teams can present in two ways –  videos + live  or with  videos only . Coaching is allowed before the presentation and translating during the presentation is acceptable.

## AI SHOWCASE TRACK

Create a project that showcases an AI solution for a real-world problem.

## AI GENERATED ART TRACK

Based on this year's themes, create artworks using text-to-image AI models like DALL·E 3, Midjourney, or Stable Diffusion.

## AI GENERATED VIDEO TRACK

Leverage AI tools to create a short video that either addresses a real-world problem or conveys a compelling message.

## AI LARGE LANGUAGE MODEL TRACK

Instruct the AI to adopt a specific domain of expertise using popular AI Large Language Models, such as ChatGPT, Bard AI, and others.

# *AI SHOWCASE TRACK*

## Task

Participants will create projects demonstrating the utility of AI in solving real-world issues.

## Project Submission Requirements

- **Project Name**
- **Project Description**: Maximum 200 words.
- **AI Usage Explanation**: Maximum 50 words.
- **6-Minute Video**: Comprising a 3-minute presentation and a 3-minute demo.
  - **3-Minute Presentation**: Detail the problem, AI application, and expected positive impact using visual aids such as slides.
  - **3-Minute Demo**: Demonstrate your solution through any format, including simulations.

A detailed breakdown of the submission components:

### Presentation Video Requirements

- Duration: Max 3 minutes, inclusive of the full presentation.
- Language: English or subtitled in English.
- Equipment: Any videotaping equipment or format is permissible.
- Visual aids: Incorporation of slides or other videos is allowed.

### Demo Video Requirements

- Duration: Max 3 minutes, covering the full demonstration.
- Language: English or subtitled in English.
- Narration: Allowed and encouraged to facilitate understanding.
- Equipment: Any videotaping equipment or format is permissible.

# *AI SHOWCASE TRACK*

## WAICY Day

If selected, teams will present live on WAICY Day, scheduled for June 2025. The presentation comprises a 3-minute presentation a 3-minute demo, followed by a 4 minute Q&A session with the judges.

**4 Minute Q&A**: Address questions from the judges regarding your presentation and demo.
*Note: The list of selected teams will be announced on before the competition day.*

### WAICY Day

A grand two-day event where selected teams showcase their projects live.
*Note: While live attendance is advised, it is not compulsory. However, absentees will not receive Q&A performance credits. Accommodations are available for those unable to attend but wish to earn Q&A credits.*

### Rubric

Grading will be based on an official rubric encompassing AI (50 points) and Design and Impact (50 points). Access the grading rubric here for a detailed understanding.

## Awards

- Certificate of Participation: Granted to all timely project submissions.

**Award Categories**
- Gold, Silver, and Bronze: For top three scores per grade category.
- AI Excellence: Highest score in AI and technical skills combined.
- Impact Excellence: Highest score in problem statement, AI ethics, and presentation & communication.
- Design Excellence: Top score in design and creativity & originality.
- Special Recognitions: Outstanding Coach and Organization Awards.

For detailed information on each category, refer to the official <u>WAICY grading rubric</u>.

# AI SHOWCASE TRACK

## RECOMMENDATIONS

These suggestions are meant to spark inspiration and help you conceive a project that aligns well with the AI Showcase Track theme.

| **High School**: | **Middle School**: | **Elementary School:** |
|---|---|---|
| FishNET AI | Fly-tipping | Drive Assist |
| NavigAId | To Eat and Not To Eat | MaWeRec |

**Past Projects:**  https://www.waicy.org/resources/

# AI-GENERATED ART TRACK

## Overview

How can I collaborate with AI to make cool art? Choose one or more than one of the following art themes and create artworks using text-to-image AI models like DALL·E 3, Midjourney, or Stable Diffusion. This track is open to all grades.

## Theme. "Envisioning a Better Future"

Create a piece of AI-generated art that reflects your vision of a better future for society. Whether it's a world where technology and nature coexist harmoniously, a community thriving through mutual support, or an innovative solution to a global challenge, use AI to bring your vision of social good to life. The art should depict a hopeful and inspiring future, highlighting the positive impact of innovation, cooperation, and compassion on the world.

## Project Submission Requirements

One Document in **PDF** Format **Including:**

1. **Artwork Title:** Provide a title for your artwork.
2. **Description of Your Idea:** Write a detailed description of the concept behind your artwork. Explain the inspiration, the message you intend to convey, and why the subject matter is important to you (no less than 250 words).
3. **Prompt and Iterative Process:** Share the exact prompt(s) you used to generate the image using AI tools and describe the iterative process that led to the final artwork. Explain how you refined your prompts or made creative adjustments throughout the process (no less than 250 words). Include at least 2 process images that show the evolution of your artwork from the initial draft to the final version.
4. **Final Image:** Submit the final AI-generated artwork. The image should be of high resolution and suitable for display. Accepted formats include PNG, JPEG, etc.
5. **Process Diagrams:** Submit all process diagrams or images generated during the creation of the final artwork. At least 2 iterative pictures should be included to show how your idea evolved during the creation process.
   - *You can see an example of the process diagram [here](#).

**2-Minute Pitch:** Record 2-minute video pitch explaining your creation. The pitch should include, but not be limited to your artistic intention, the reasoning behind your creative decisions, and the significance of your artwork.

# AI-GENERATED ART TRACK

## RESOURCES:

https://openai.com/index/dall-e-3/
https://docs.midjourney.com/
https://stablediffusionweb.com/
https://hotpot.ai/

**Past Projects:**
https://www.waicy.org/resources/

# *AI-GENERATED VIDEO TRACK*

## Overview

The AI Generated Video Track invites participants to leverage AI tools to create a short video that either addresses a real-world problem or conveys a compelling message. This track encourages participants to explore the capabilities of AI in video creation, storytelling, and visual communication.

This track is open to all grades and encourages creativity, technical skill, and thoughtful application of AI.

## Themes:

Participants can choose one or more of the following themes to guide their video creation:
- **AI for Social Good**: Showcase how AI can be utilized to solve a specific societal challenge.
- **The Future of AI**: Envision and present the future possibilities of AI technology.
- **AI and Human Emotions**: Explore the intersection of AI and human emotions, illustrating how AI can understand, enhance, or even replicate human emotional experiences.

## Project Submission Requirements

One Document in **PDF** Format **Including:**
1. **Video Title**
2. **Final Script(s)**
3. **Project Description**: A detailed description of the video concept, including the chosen theme and the message or solution being conveyed (minimum 250 words).
4. **AI Tools and Process**: A description of the AI tools used and an explanation of how these tools contributed to the video creation process (minimum 250 words).
   - Include a detailed outline of the process used to generate the video, with at least 3 scenes.
     - Scripts used in each scene
     - Method(s) used in generating the video not limited to: Text to Video; Image to Video; and Video to Video
   - If any other tools are used (e.g., video editing software like Premiere or Final Cut Pro)

**Final Video**: A 1-2 minute video that fully embodies the chosen theme and narrative.
   - The video must be in English or subtitled in English.
   - All video formats are accepted (e.g., MP4, AVI, MOV).

## *AI-GENERATED VIDEO TRACK*

### RESOURCES:

**AI-generated Video Tools:**
https://pixverse.ai/ (Text to Video, Image to Video)
https://www.stablevideo.com/welcome (Text to Video, Image to Video)
https://haiper.ai/ (Text to Video, Image to Video, Video to Video)
https://pictory.ai/ (AI generated voice-over)

**Tutorial for using AI-generated Video tools:**
https://waicy.my.canva.site/waicy-ai-generated-video-track-guidebook

# LLM PROMPT ENGINEERING TRACK

## Theme: AI as a Service

Your task is to instruct the AI to adopt a specific domain of expertise. This isn't just about one-time advice; it's about turning the AI into an ongoing experienced assistant in a chosen domain. Users should be able to interact with it repeatedly and gain insights as if they were speaking to a human specialist.

This track is designed for **upper-middle and high school students who have a strong interest in exploring Prompt Engineering in a research-oriented way**. Students from all levels are welcome. However, there are no separate categories for different age groups in this track.

## Submission Requirements

One Document in **PDF** Format **Including:**

- **What Specific Service Your AI Provides**
  Clearly define the unique service your AI provides.
  Provide a concise description of your AI's core functionality, the challenges it addresses, and the value it brings to its users.

- **Motivation**
  Explain why you developed this AI service, mentioning what inspired its creation.

- **Link to the Chat History**
  Create a conversation that includes **at least 10 exchanged messages** between you and **the final edition** of the virtual assistant you've developed. Share a link to the conversation history like this example. Example Link

- **Link to the Chatbot:**
  Provide a live link to your chatbot prototype so judges can directly interact with it and evaluate its functionality. This will allow us to assess the real-time performance and user experience of your AI. Example Link

- **Iterative Prompt Development Process**
  Follow the framework for prompt engineering about Idea, Prompt, Experimental Result, and Error Analysis. This is an example of what we expect.
  Iterative Prompt Development Process Example.pdf

# LLM PROMPT ENGINEERING TRACK

- **Limitation**
  Describe any limitations of your AI service, such as ethical considerations or practical issues.

- **Future Development**
  Discuss planned advancements or improvements to address the aforementioned limitations and enhance the AI service's capabilities and performance.

- **Conclusion**
  Summarize the key points discussed in the previous sections.
  Highlight the significance and potential impact of your AI service.

- **Reference**
  List all the sources, articles, books, and other resources that you have referred to while creating your AI service and writing the submission in a recognized citation style (e.g., APA, MLA, Chicago, etc.).

## RESOURCES:

**OpentAI ChatGPT**   https://chat.openai.com/
**Gemini**                    https://gemini.google.com/
**DeepLearning.AI**    https://www.deeplearning.ai/

**Past Projects:**
https://www.waicy.org/resources/

# *LLM PROMPT ENGINEERING TRACK*

## Examples:

## 1. Basketball Shoe Sales Assistant (Main Example)

### Description of Idea:

Design an AI to act as a sales assistant in a store specializing in basketball shoes. It should understand the nuances of selecting the right basketball shoe based on various factors like playing style, court type, and foot shape.

### Prompt Construction:

**Research Phase**: Begin by searching reputable sources and grasping essential details related to basketball shoes. Understand the differences brought about by playing style, court type, foot shape, and other unique factors. Includes any online resources you are using for constructing. For this example, we are taking ideas about how to choose the right basketball shoes from this blog to help generate the context and background.
*How To Choose The Right Basketball Shoes* | Finish Line. (2023, June 13). The Fresh Press by Finish Line. https://blog.finishline.com/how-to-choose-the-right-basketball-shoes/.

**Initial Context & Background Setting**: Using the gathered information, construct an initial context for the AI. This should include foundational advice on shoe selection, emphasizing factors exclusive to basketball shoes.

**Test & Refine:** Pretend to be a potential customer and engage with the AI. Identify areas where the assistant might falter in its recommendations or knowledge. Adjust the context and background setting based on these interactions, refining the prompts to enhance its proficiency.

**Finalization:** Once satisfied with the AI's performance in its specialized domain, finalize the context and background settings for optimal user interactions.

### Submission:

**Iterative Prompt Development Process** Iterative Prompt Development Process Example.pdf
**Link to the Chat History** Example Link
**Link to the Chatbot** Example Link
(Same with the example in Submission Requirements)

# LLM PROMPT ENGINEERING TRACK

## Examples:

## 2. Home Gardening Consultant

### Description of Idea:

Design an AI that can act as a home gardening consultant for individuals looking to start or maintain a garden in their homes. The AI should have knowledge of plant types suitable for various climates, soil types, sunlight requirements, and potential pests or diseases that might affect them. Includes any online resources you are using for constructing. We are taking ideas about how to start or maintain a garden in their homes from this blog to help generate the context and background.

*Waterworth, K. (2023, April 27). The Ultimate Guide For How To Start A Garden From Scratch.* Forbes Home. https://www.forbes.com/home-improvement/lawn-care/how-to-start-a-garden/

### Prompt Construction:

**Research Phase**: Start by exploring reputable sources about home gardening. Gain an understanding of the essential factors affecting plant growth, including climate, soil, light, water, and pests.

**Initial Context & Background Setting**: Using the gathered information, construct an initial context for the AI. This should include foundational advice on choosing plants based on the above factors, as well as general tips on care, pest control, and disease prevention.

**Experiments:** Pretend to be a potential customer and engage with the AI. Identify areas where the assistant might falter in its recommendations or knowledge. Adjust the context and background setting based on these interactions, refining the prompts to enhance its proficiency.

**Finalization:** Once satisfied with the AI's performance in its specialized domain, finalize the context and background settings for optimal user interactions.

# *LLM PROMPT ENGINEERING TRACK*

## Examples:

## 3. Friendly Water Saver

## Description of Idea:

Develop an AI named "Friendly Water Saver" that helps children and their families understand and implement water-saving tactics at home. The AI should be interactive and engaging and should provide easy-to-understand tips on water conservation in a fun manner. It can guide users on how to conduct a home water audit, suggest simple changes like fixing leaks or changing to efficient fixtures, and challenge the family with weekly water-saving goals. We are taking ideas about how to save water in the family from this website page to help generate the context and background. Water Use It Wisely. (2023). *100+ Ways To Conserve Water.* Retrieved from https://wateruseitwisely.com/100-ways-to-conserve/

## Prompt Construction:

**Research Phase**: Review resources about home water conservation techniques, focusing on strategies and tactics that are simple enough for children to understand and be engaged with. "100+ Ways To Conserve Water" could be a starting point to extract practical tips and ideas.

**Initial Context & Background Setting**: Embed into the AI, base knowledge about water conservation, ensuring the language and concepts are child-friendly. The AI should be able to provide quick tips and fun facts and initiate water-saving challenges suitable for families to implement.

**Experiments:** Interact with the AI, posing as a child or a parent interested in learning about water conservation. Ensure the tips and challenges provided are safe, practical, and engaging for young minds. The AI should encourage actions and also celebrate the achievements of the users in a positive tone.

**Finalization:** After assuring the AI's responses are consistently appropriate, educational, and engaging for a young audience, finalize the context and settings. The AI, "Friendly Water Saver," should be a delightful, informative companion that inspires tangible action in-home water conservation among children and their families.

# *LLM PROMPT ENGINEERING TRACK*

## Evaluation Criteria

- Originality and innovation in the selected context.
- Clarity and relevance of the distinguished information.
- Reliability and accuracy of the resultant prompt.
- Coherence and feasibility of the projected intelligent agent interaction.

## Tips:

**1. Choose a specific, small daily case.**

By specific, we mean:
For instance, become a "basketball shoe sales assistant" rather than a general "shoe sales assistant." Be a "home gardening consultant" instead of a broad "gardening consultant for all conditions."

By small daily, we mean:
Focus on topics like shoes and gardening rather than broader topics like "how to develop a selling strategy" or "formulating an environmental law policy."

**2. Balance youthful creativity with research process**
Research: Even if you possess experience and knowledge about a specific service, conducting thorough research can save you valuable time in subsequent phases of the project, such as Error Analysis. An in-depth understanding is a vital component of your project.

Creativity: you can show your different perspectives from daily life and use an innovative approach to prompt engineering that makes the agent distinctive compared to a general one.

To strike a balance, we expect you to employ a similar structure as in the example; however, we do not require you to be overly specific or to cover every turn. The purpose of this process is for you to share your creative thoughts clearly.

## *ENLIGHTEN, EVOLVE, INNOVATE*
## *WELCOME TO WAICY FUNDÃO 2025*

WAICY proudly announces its first summer event in Europe!

**Fundão, Portugal**

**June 2025**

### *FUNDÃO, WHERE BOUNTIFUL CULTURE MEETS DIGITAL FUTURE*

Nestled in the Castelo Branco District of central Portugal, Fundão is a municipality of rich histories and vibrant cultures. Upholding its traditional roots, the region champions forward-looking developmental projects, swiftly adapting to digital transformation. What makes Fundão special is its ceaseless dedication to education, nurturing the next generation that is not only technologically savvy but also culturally confident. As featured on **UNESCO Institute for Lifelong Learning**, Fundão is an evolving hub for holistic, creative, and globally minded young talents. WAICY is elated and honored to make its European debut in Fundão. This special event aspires to cultivate a thriving community of teaching and learning through project-based digital enrichment. By hosting its first EU event in this dynamic town, WAICY pins Fundão as the pioneer of AI education for youth and multilateral knowledge-sharing.

### *KEY HIGHLIGHTS:*

- Fostering a culture of innovation and collaboration among teachers and students
- Empowering young students along their academic and career journeys
- Enlivening the municipality's AI education ecosystem
- Trailblazing academic-industry multistakeholder partnerships

# LEARN MORE ABOUT WAICY STAR AT

## HTTPS://WWW.WAICY.ORG/WAICY-STAR/

## SOME USEFUL RESOURCES:

**WAICY OFFICIAL WEBSITE:** https://www.waicy.org
**WAICY 2025 EUROPE WEBPAGE:** https://www.waicy.org/europe/
**AI RESOURCES BY WAICY:** https://www.waicy.org/start-learning-about-ai/
**WAICY FB RESOURCES:** https://www.facebook.com/hashtag/waicy
**THE 5 BIG IDEAS OF AI:** https://ai4k12.org/resources/big-ideas-poster/
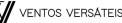**PROJECT DEMOS FROM PREVIOUS WAICYs:** https://www.waicy.org/resources/