2023

WAICY

World Artificial Intelligence
Competition for Youth

Jointly Organized by

ReadyAi

SDAIA
الهيئة السعودية للبيانات
والذكاء الاصطناعي
Saudi Data & AI Authority

أكاديمية كاوست
KAUST ACADEMY

WAICY
World Artificial Intelligence Competition for Youth

COMPETITION INFO

Organizer: ReadyAI (USA)- https://www.readyai.org/
Competition type: Hybrid (online & onsite)
Project submission deadline: November 25th, 2022
Competition date: December 2nd-3rd, 2023
Competition language: English
Type of participants: Teams with 1- 5 members under the age of 18
WAICY 2023 Organizing Team: info@waicy.org

Registration for participation:
https://www.waicy.org/waicy-2023-online-project-submission/

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 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

Jointly Organized by

ReadyAi

SDAIA
الهيئة السعودية للبيانات
والذكاء الاصطناعي
Saudi Data & AI Authority

أكاديمية كاوست
KAUST ACADEMY

HOW DOES IT GO?

This year we have three 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 2nd - 3rd. 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 2, Midjourney, or Stable Diffusion.

AI LARGE LANGUAGE MODEL TRACK

Create a game or compose a song using popular AI Large Language Models, such as ChatGPT, Bard AI, and others.

All the projects should be submitted before online submission deadline.
Submission Deadline: November 25, 2023, 5:00 PM ET

WAICY
World Artificial Intelligence
Competition for Youth

TIMELINE

NOVEMBER 25 ● **SUBMISSION DEADLINE**

The online submission form can be accessed here.

NOVEMBER 28 ● **ALLOCATE TIME SLOT**

Participants of the final competition will be arranged a time section of attending the final WAICY.

DECEMBER 2 & 3 ● **FINAL COMPETITION DAY**

Participants need to present in front of the judges and answer questions during the Q&A sessions.

DECEMBER 4 ● **ANNOUNCEMENT OF WINNER**

The winners and awards will be announced online.

ReadyAi

SDAIA
الهيئة السعودية للبيانات والذكاء الاصطناعي
Saudi Data & AI Authority

أكاديمية كاوست
KAUST ACADEMY

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.

Submission Deadline: November 25, 2023, 5:00 PM ET
via the Project Submission Form. Link

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 December 2nd - 3rd. 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 November 28, 2023.*

WAICY Day

A grand two-day event where selected teams showcase their projects live. Refer to the WAICY 2023 Home Page in November for the guidebook on using the online conference platform.
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.
- Prize Ceremony: December 4, 2023, 4:00 PM EDT.

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 2023 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:

FishNET AI

NavigAId

Middle School:

Fly-tipping

To Eat and Not To Eat

Elementary School:

Drive Assist

MaWeRec

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 2, Midjourney, or Stable Diffusion. This track is open to all grades.

Theme. The Joys of Family

Use AI to create a painting that depicts the joys of your family. It could be a portrait of your family member, your pet, a memorable item that your family owns, a very unforgettable scene in your life, a beautiful scenery that you enjoyed during your family trip, etc.

Project Submission Requirements

1. Your description of your idea of this painting that you want to create (no less than 250 words)
2. Your prompt to generate the image and the iterative process. (no less than 250 words)
3. The final image and all process diagrams generated in the process of generating the final image. (at least 2 iterative pictures)

   *You can see an example of the process diagram here.

Submission Deadline: November 25, 2023, 5:00 PM ET
via the Project Submission Form. Link

RESOURCES:

https://openai.com/dall-e-2
https://docs.midjourney.com/
https://stablediffusionweb.com/
https://hotpot.ai/

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

- **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

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

LLM PROMPT ENGINEERING TRACK

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.).

Submission Deadline: November 25, 2023, 5:00 PM ET
via the Project Submission Form. Link

RESOURCES:

OpentAI ChatGPT   https://chat.openai.com/
Google Bard AI   https://bard.google.com/chat
DeepLearning.AI   https://www.deeplearning.ai/

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
(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 underlined 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.

WAICY
World Artificial Intelligence
Competition for Youth

SIXTH YEAR OF WAICY!

High-five to WAICY six-year milestone! In the past six years, we've had younger generations involved in the long-term visions of AI. Getting involved in the conversation is more important than simply their coding or comprehension of the impact. WAICY has encouraged young boys and girls to pursue their passion in STEM by allowing participation to be free at all times, provided AI resources to keep participants supported throughout the competition, and connecting kids with various opportunities in their respective interests. WAICY continues to encourage these young pursuits in the hopes of building a savvier future!

INTERACTIVE WAICY DAY!

From **December 2nd-3rd, 2023** between is interactive WAICY day. Teams that successfully complete and submit their projects by the deadline receive an invitation to participate in this event. This gives the chance for participants to present their projects to a live audience! Presentations in front of live judges present the opportunity to receive Q&A performance credits.
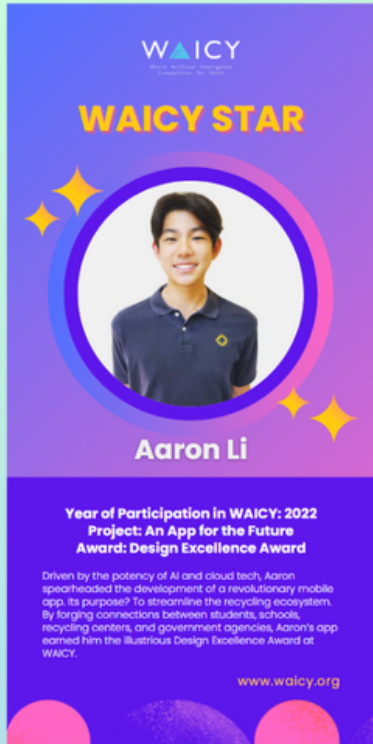
SPECIAL PRIZE DESIGN!

WAICY 2023 is excited to hand out awards to top projects at Interactive WAICY Day! A Certification of Participation is awarded to all participants who successfully submit their projects on time. Additionally, there are **Gold, Silver, and Bronze awards for the top 3 projects** in the given categories. Projects can also earn other awards that include AI Excellence, Impact Excellence, Design Excellence, Outstanding Coach Awards, and Outstanding Organization Awards. The variety of awards presents lots of opportunities for teams to showcase their abilities!

REUNION FOR OUR BIG WAICY FAMILY!

Every year the WAICY Family gets together to organize the yearly competition. We're always happy to work with old and new faces in order to present an important opportunity to the younger generation. We're excited to be back for another round of exciting projects and passionate presentations.

WAICY STARS FROM PAST YEARS

Not only are we hoping to take on new teams for this year, but we also invite old teams from our previous years! We will publish stories of the selected WAICY stars from past winning team. This gives all participants the opportunity to get a great idea of what an amazing project looks like.

Jointly Organized by

ReadyAi

SDAIA
الهيئة السعودية للبيانات
والذكاء الاصطناعي
Saudi Data & AI Authority

أكاديمية كاوست
KAUST ACADEMY

WAICY
World Artificial Intelligence
Competition for Youth

WAICY STAR

Aaron Li

Year of Participation in WAICY: 2022
Project: An App for the Future
Award: Design Excellence Award

Driven by the potency of AI and cloud tech, Aaron spearheaded the development of a revolutionary mobile app. Its purpose? To streamline the recycling ecosystem. By forging connections between students, schools, recycling centers, and government agencies, Aaron's app earned him the illustrious Design Excellence Award at WAICY.

www.waicy.org

WAICY STAR

Lara Alexandra Van Steen

Year of Participation in WAICY: 2022
Project: Hazel's Donation
Award: AI Excellence Award

Amidst a plethora of unique projects from across the globe, Lara's brainchild, "Hazel's Donations," stole the spotlight. This ingenious application, built on Pictoblox, was designed to streamline the process of making donations. From registering for beach clean-ups to diving deep into the world of various charity organizations, Lara's app facilitates it all, ensuring assistance is just a click away.

www.waicy.org

LEARN MORE ABOUT WAICY STAR AT

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

SOME USEFUL RESOURCES:

WAICY OFFICIAL WEBSITE: https://www.waicy.org
WAICY 2023 WEBPAGE: https://www.waicy.org/waicy-2023/
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://www.aaai.org/ojs/index.php/AAAI/article/download/5053/4926