# PRISMA de espaitec

UNA VISIÓN 360º
DE TECNOLOGÍA
E INNOVACIÓN

SEPTIEMBRE
OCTUBRE
2023

Hybrid nanofluids

E-sports

Prompt engineering

UNIVERSITAT JAUME I
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Development /
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Hybrid nanofluids

E-sports

Promp engineering

# Contenidos

## NOTICIAS


**05** Instruction Tuning Vol. 1

**05** E-sports are more popular than traditional sports in Asia

**06** Non gaming reaches its highest ever monthly hours watched on twitch in july 2023

**06** Centaurs and Cyborgs on the Jagged Frontier

**06** Casual Game Platforms Lead with 10% On-chain Gaming Activity

**07** How Will Generative AI Change the Video Game Industry?

**07** How to cite chatgpt

**07** Chatbot Arena : Benchmarking LLMs in the Wild


## EMPRESAS Y MERCADOS


**08** Microsoft Completes $69 Billion Acquisition of Activision Blizzard Amid Regulatory Hurdles

**08** Prompt hub. Using llms to optimize your prompts

**09** DENSO Launches “Everycool,” a Commercial Vehicle Cooling System for Trucks that Improves Cooling Efficiency and Reduces Environmental Impact

**09** Spread Your Wings: Falcon 180B is here

**09** Synano’s breakthrough formulation techniques

**10** What is Semantic Kernel?

**10** What’s New in PromptPerfect? New Optimizer, Streaming and Bulk Optimization

**10** ServiceNow expands generative AI capabilities with case summarization and text-to-code to drive speed, productivity, and value

**11** Givenchy y Adidas continúan invirtiendo en su estrategia Phygital 2023

**11** Zombie game maker Techland joins Tencent’s global empire in latest acquisition

**11** A synthesis parameter of molten salt nanofluids for solar thermal energy storage applications

## PATENTES


**12** Generative summaries for search results

**12** Synthesizing a computer program to include idiomatic function(s) and semantically-meaningful variable(s) using programming by example

**13** Spectator interaction method and apparatus, and device, storage medium and program product

**13** Systems and Methods for Implementing Smart Assistant Systems

**13** Performance of a neural network using automatically uncovered failure cases

**13** Aspect prompting framework for language modeling

**14** Manufacturing method of organic-inorganic hybrid capusle type phase change materials with excellent thermal conductivity and shape stability

**14** Data relationship identification, automatic question and answer and query statement generation method

**14** Utilizing a generative neural network to interactively create and modify digital images based on natural language feedback Language Feedback

**14** Information processing device and information processing method

**15** Lubricant additive

**15** Improved key structure for keyboard

**15** Game program and game system

**15** Method for producing nanofluids using laser ablation, corresponding nanofluids and laser ablation system for producing nanofluids

**16** Large language model knowledge enhancement method and system, electronic equipment and medium

**16** Systems and methods for improved efficient e-sports spectator mode through use of gpu attached non-volatile memory

**16** Multi-energy-field nano lubricant micro-scale bone grinding machining measuring system

**16** Live broadcast camera system, method, device and equipment and storage medium

**17** Refrigeration cycle device

**17** Capillary-pumped-type heat pipe with re-entrant grooves, having increased thermal conductivity

**17** Responsible Artificial Intelligence Controller


## INFORMES SECTORIALES


**18** Guía de Ingeniería de Prompt

**18** Learn Prompting

**19** Newzoo's Global Games Market Report 2023 | Free Version

**19** Global Heat Transfer Fluids Market, By Type

**19** E-Sports Domination: A Look at 2023 Competitive Gaming Trends

## PUBLICACIONES CIENTÍFICAS

**20** MemGPT: Towards LLMs as Operating Systems

**20** Photothermal properties and performance of hybrid carbon-paraffin/water emulsions

**21** Understanding prompt engineering may not require rethinking generalization

**21** DSPy: Compiling Declarative Language Model Calls into Self-Improving Pipelines

**21** PeaTMOSS: Mining Pre-Trained Models in Open-Source Software

**22** Promptbreeder: Self-Referential Self-Improvement Via Prompt Evolution

**22** Augmenting the double pipe heat exchanger efficiency using varied molar Ag ornamented graphene oxide (GO) nanoparticles aqueous hybrid nanofluids

**22** Using Gameplay Videos for Detecting Issues in Video Games

**23** Enhanced photothermal conversion performance of MWCNT/SiC hybrid aqueous nanofluids in direct absorption solar collectors

**23** Investigation on the Lubrication Performance of γ-Al2O3/ZnO Hybrid Nanofluids for Titanium Alloy

**23** A Systematic Survey of Prompt Engineering on Vision-Language Foundation Models

**24** Unifying Large Language Models and Knowledge Graphs: A Roadmap

**24** Enhancing heat transfer in solar-powered ships: a study on hybrid nanofluids with carbon nanotubes and their application in parabolic trough solar collectors with electromagnetic controls

**24** Multiwalled carbon nanotubes-titanium dioxide nanocomposite for flat plate solar collectors applications

**25** Results of the 2023 Census of Beat Saber Users: Virtual Reality Gaming Population Insights and Factors Affecting Virtual Reality E-Sports Performance

**25** Qualitative modeling of solar panel cooling by nanofluid jets: Heat transfer and second law analysis

**25** Experimental investigation of tribological and rheological behaviour of hybrid nanolubricants for applications in internal combustion engines

**26** Using artificial neural networks to ask 'why' questions of minds and brains

**26** CS-lol: a Dataset of Viewer Comment with Scene in E-sports Live-streaming

**26** An empirical analysis of compute-optimal large language model training

SEPTIEMBRE
OCTUBRE
2023

# Noticias

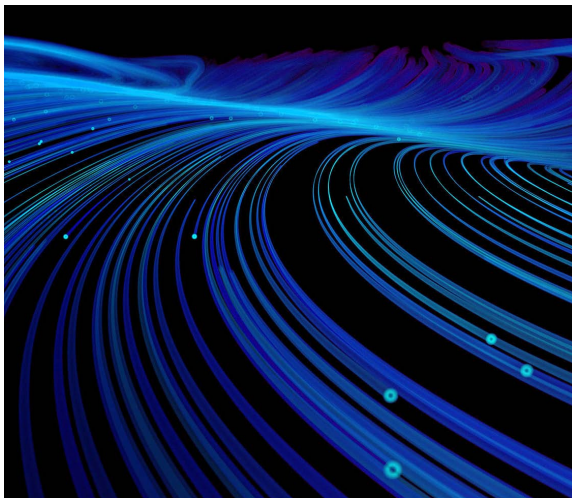
## Instruction Tuning Vol. 1

**Fuente:** NLP News / **Fecha:** 04/10/2023

Prompt engineering

NLP and ML have gone through several phases of how models are trained in recent years. With the arrival of pre-trained models such as BERT, fine-tuning pre-trained models for downstream tasks became the norm. The increasing capabilities of ever larger models then enabled in-context learning via prompting. Recently, instruction tuning has become the newest method to make LLMs useful in practice. In this edition, we will cover some of the most popular datasets for instruction tuning. The next editions will cover the latest instruction datasets and instruction-tuned models. What is Inst...(+)

**Ver más...**



## E-sports are more popular than traditional sports in Asia

**Fuente:** MIT Technology Review / **Fecha:** 04/10/2023

E-sports

They could be a major cultural export for China, but the government's ambivalence on gaming could compromise progress. It was probably the highest-stakes mobile game match that's ever been played. On the evening of September 26, 10 men from China and Malaysia sat on a stage in Hangzhou, China, each staring intensely into a phone. More than 4,000 people were in the arena's audience, cheering on the group of players who were barely adults, while potentially millions watched online or on TV. In 13 minutes, the Chinese te...(+)

**Ver más...**

## Non gaming reaches its highest ever monthly hours watched on twitch in july 2023

**Fuente:** aStreamhatchet.com / **Fecha:** 20/09/2023

E-sports

Is there room for non-gaming content on live streaming platforms? Twitch is not only about Gaming anymore. Recent trends have shown the growth of Non-Gaming content during 2023, most of it can be attributed to the amount of special events that have happened during the year, and to the Just Chatting category. Also Sports have risen from the bottom of the ranks to consolidate itself as one of the top non-gaming categories during 2023 thanks to the disruptiveness of the Kings and Queens league. In 2023, the numbe...(+)

Ver más...

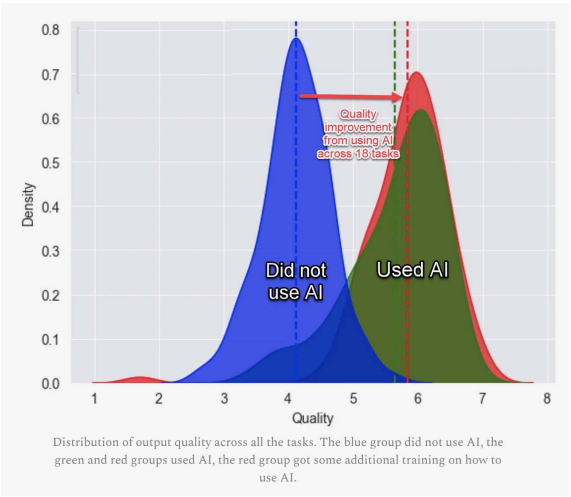
## Centaurs and Cyborgs on the Jagged Frontier

**Fuente:** Oneusefulthing.org / **Fecha:** 16/09/2023

Prompt engineering

I think we have an answer on whether AIs will reshape work.... A lot of people have been asking if AI is really a big deal for the future of work. We have a new paper that strongly suggests the answer is YES. For the last several months, I been part of a team of social scientists working with Boston Consulting Group, turning their offices into the largest pre-registered experiment on the future of professional work in our AI-haunted age. Our first working paper is out today. There is a ton of important and useful nuance in the paper but let me tell you the headline first: for 18 different tasks selected to be real...(+)

Ver más...




Distribution of output quality across all the tasks. The blue group did not use AI, the green and red groups used AI, the red group got some additional training on how to use AI.

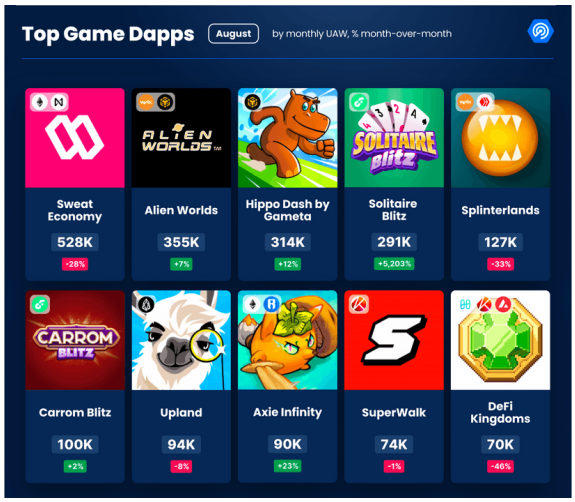
## Casual Game Platforms Lead with 10% On-chain Gaming Activity

**Fuente:** Dappradar.com / **Fecha:** 14/09/2023

E-sports

August's exploration into the realm of blockchain gaming and the metaverse unveils a tapestry of innovation, collaboration, and pivotal shifts. With behemoths like Animoca Brands and Yuga Labs joining hands and the metaverse dynamics evolving, the contours of the Web3 gaming world are being redrawn. This report ventures into the heart of the most significant developments, announcements, and trends of the past month, offering a vista into a nascent future crafted at the confluence of gaming, blockchain, and the e...(+)

Ver más...



## How Will Generative AI Change the Video Game Industry?

**Fuente:** Bain.com **/ Fecha:** 14/09/2023

E-sports

Executives see AI improving quality and speeding time to market but not alleviating the talent shortage. Generative AI is just beginning to have an effect on video games, but gaming industry executives believe that over the next 5 to 10 years, it will contribute to more than half of the video game development process. Bain spoke with gaming industry executives about the potential and the challenges of generative AI for their industry. Most have high expectations for generative AI and the machine learning it's based on, and they...(+)

**Ver más...**

## How to cite chatgpt

**Fuente:** Scribbr.com **/ Fecha:** 15/05/2023

Prompt engineering

ChatGPT, the popular AI language model, is quite new. Educational institutions and style guides are still working out their policies on when and how content from the tool can be used and cited in academic writing. Guidelines are still evolving, so we provide formats based on what the different style guides have said about the issue so far. This article will be updated over time to reflect the latest guidelines as different authorities develop their recommendations. We also discuss when you should cite ChatGPT and whether ChatGPT itself can cite sources. How to cite ChatGPT in APA Style. Creat...(+)

**Ver más...**

## Chatbot Arena : Benchmarking LLMs in the Wild

**Fuente:** Lmsys.org **/ Fecha:** 03/05/2023

Prompt engineering

We present Chatbot Arena, a benchmark platform for large language models (LLMs) that features anonymous, randomized battles in a crowdsourced manner. In this blog post, we are releasing our initial results and a leaderboard based on the Elo rating system, which is a widely-used rating system in chess and other competitive games. We invite the entire community to join this effort by contributing new models and evaluating them by asking questions and voting for your favorite answer. Introduction. Following the great success of ChatGPT, there has been a proliferation of open-source large langu...(+)

**Ver más...**

SEPTIEMBRE
OCTUBRE
2023

# Empresas y mercados

## Microsoft Completes $69 Billion Acquisition of Activision Blizzard Amid Regulatory Hurdles

**Fuente:** Hackernoon.com / **Fecha:** 15/10/2023

E-sports

After almost twenty months, the Internet Giant Microsoft has completed its deal to acquire Activision Blizzard for 69 billion dollars. The deal took this long because of the restrictions from the authorities of the Western countries, mainly the United States, the United Kingdom, and the European Union. The parliament and lawmakers of these countries were arguing that Microsoft would end the competition in the gaming industries after acquiring one of the most popular game studios, Activision Blizzard. Activision Blizzard is a...(+)

Ver más...

## Prompt hub. Using llms to optimize your prompts

**Fuente:** Prompthub.us / **Fecha:** 15/09/2023

Prompt engineering

Who's better at writing prompts, humans or LLMs? I've found that a blend of human and LLM input works best. One thing I know for sure is that the way you instruct a model with a prompt is extremely important. Even single-word differences in a prompt can have an outsized effect. That's why this research from the folks over at Deepmind stuck out to me: Large Language Models As Optimizers. They developed a method called Optimization by PROmpting (OPRO) to help with the prompt optimization process. At its core, OPRO l...(+)

Ver más...

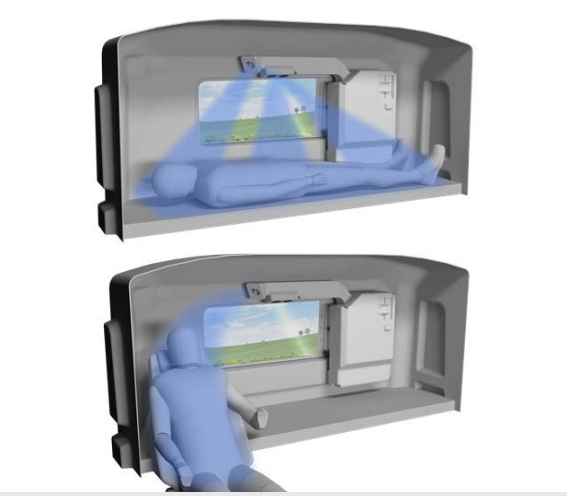
## DENSO Launches “Everycool,” a Commercial Vehicle Cooling System for Trucks that Improves Cooling Efficiency and Reduces Environmental Impact

**Fuente:** Denso.com / **Fecha:** 11/09/2023

Hybrid-nanofluids

DENSO CORPORATION has announced that it has developed “Everycool,” an advanced cooling system that provides comfort and energy efficiency when a commercial vehicle’s engine is off. This product will be available for purchase starting December*1 of this year in Japan through DENSO SOLUTION CORPORATION. DENSO is committed to realizing a “well-being cycle society” for the future in 2...(+)

Ver más...



## Spread Your Wings: Falcon 180B is here

**Fuente:** Huggingface.co / **Fecha:** 06/09/2023

Prompt engineering

Today, we’re excited to welcome TII’s Falcon 180B to HuggingFace! Falcon 180B sets a new state-of-the-art for open models. It is the largest openly available language model, with 180 billion parameters, and was trained on a massive 3.5 trillion tokens using TII’s RefinedWeb dataset. This represents the longest single-epoch pretraining for an open model. You can find the model on the Hugging Face Hub (base and chat model) and interact with the model on the Falcon Chat Demo Space. In terms of capabilities, Falcon 180B achieves state-of-the-art results across natural language tasks. It tops the ...(+)

Ver más...

## Synano’s breakthrough formulation techniques

**Fuente:** Synano.eu / **Fecha:** 01/09/2023

Hybrid-nanofluids

Graphene’s exceptional properties have resulted in notable innovations across industries. Synano has harnessed the potential of graphene by developing exceptionally stable graphene suspensions using proprietary formulation techniques. These innovative formulation methods were a result of years of relentless research and development, with a particular focus on carbon nanoparticles. Participating in research and development projects like ‘Nano-graph’ under the MIT R&D Samenwerkingsprojecten, funded by RVO and ‘BRAINE’ under the ECSEL-JU funded by European commission ...(+)

Ver más...

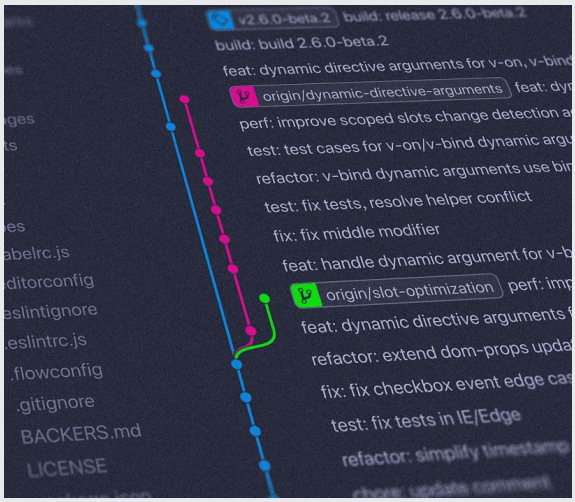
## What is Semantic Kernel?

**Fuente:** Learn.Microsoft.com / **Fecha:** 11/07/2023

Prompt engineering

Semantic Kernel is an open-source SDK that lets you easily combine AI services like OpenAI, Azure OpenAI, and Hugging Face with conventional programming languages like C# and Python. By doing so, you can create AI apps that combine the best of both worlds. Semantic Kernel is at the center of the copilot stack. During Kevin Scott's talk The era of the AI Copilot, he showed how Microsoft powers its Copilot system with a stack of AI models and plugins. At the center of this stack is an AI orchestration layer that allows us to combine AI models and plugins together to create brand ...(+)

Ver más...



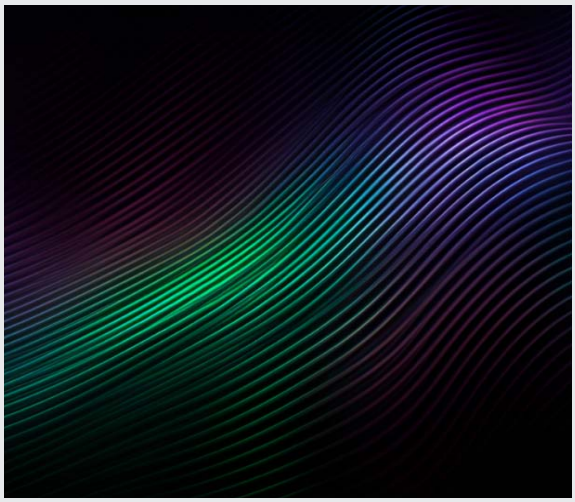

## What's New in PromptPerfect? New Optimizer, Streaming and Bulk Optimization

**Fuente:** Jina.ai / **Fecha:** 25/08/2023

Prompt engineering

Other people take holidays in summer. But we've been hard at work and sweating through the heat to make PromptPerfect even perfecter. PromptPerfect - Elevate Your Prompts to Perfection. Prompt Engineering, Optimizing, Debugging and Hosting. . Unlock advanced prompt engineering and prompt optimization for large models such as GPT-4, ChatGPT, MidJourney and StableDiffusion. Seamlessly deploy your text and image prompts as dedicated services with our free prompt hosting plan. Enhance your large models with supe...(+)

Ver más...



## ServiceNow expands generative AI capabilities with case summarization and text-to-code to drive speed, productivity, and value

**Fuente:** Servicenow.com / **Fecha:** 26/07/2023

Prompt engineering

ServiceNow (NYSE: NOW), the leading digital workflow company making the world work better for everyone, today announced expanded generative AI capabilities, case summarization and text-to-code, to drive speed, productivity, and value for customers. Powered by proprietary ServiceNow large language models (LLMs), both capabilities are purpose-built for the ServiceNow platform and are designed to alleviate repetitive work and significantly improve ...(+)

Ver más...

## Givenchy y Adidas continúan invirtiendo en su estrategia Phygital 2023

**Fuente:** Mokaletstalk.com.com / **Fecha:** 26/07/2023

E-sports

Givenchy y adidas están con la mirada al futuro. Casi un año después de la revelación de la estrategia "Into The Metaverse", adidas Originals regresa con su primera colección de moda digital portátil. Por otro lado, Givenchy también busca digitalizar sus prendas para acercar a la marca al territorio "phygital". estrategia Phygital. Moda Phygital. La palabra Phygital viene de la fusión de las palabras physical y digital. Es un nuevo término que hace referencia a la presencia tanto física como digital. Es un proceso que integra funcional...(+)

Ver más...

## Zombie game maker Techland joins Tencent's global empire in latest acquisition

**Fuente:** Techcrunch.com / **Fecha:** 25/06/2023

E-sports

Tencent, one of the world's largest gaming companies, is set to gobble up Techland, the Polish game developer known for open-world zombie games like Dying Light, adding yet another member to its sprawling investment portfolio. In a letter to players, Techland's founder and CEO Paweł Marchewka announced that Tencent is in the process of becoming the gaming firm's majority shareholder. Terms of the deal were not disclosed. "Teaming up with Tencent will allow us to move full speed ahead with the execution of the vi:...(+)

Ver más...

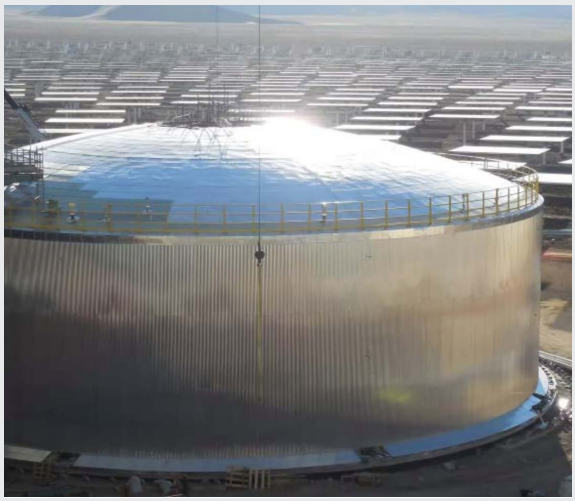
## A synthesis parameter of molten salt nanofluids for solar thermal energy storage applications

**Fuente:** Solarpaces.org / **Fecha:** 10/06/2023

Hybrid-nanofluids

Nanoparticle dispersions at a minute concentration in salt mixtures have recently been reported to significantly increase their specific heat capacity. However, there is a discrepancy between experimental results reported for the same kind of molten salt-nanoparticle mixtures by different research groups. From our literature survey, we learned that there is no standardized synthesis protocol for preparing molten salt nanofluids. In general, two-step method has been the most widely used in the literature. Nanoparticles and salts...(+)

Ver más...



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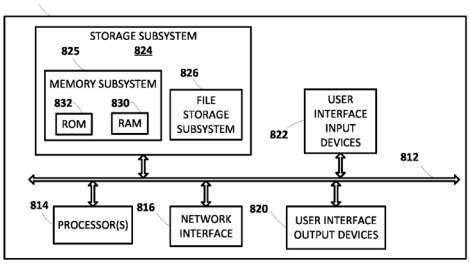
# Patentes




## Generative summaries for search results

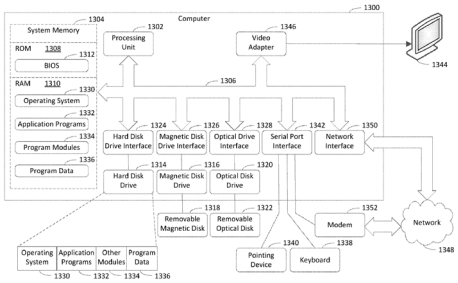
**Publicación:** Espacenet **/ Fecha:** 26/09/2023

Prompt engineering

**Solicitante:** Google LLC [US]

At least selectively utilizing a large language model (LLM) in generating a natural language (NL) based summary to be rendered in response to a query. In some implementations, in generating the NL based summary additional content is processed using the LLM. The additional content is in addition to q...(+)

Ver más...




## Synthesizing a computer program to include idiomatic function(s) and semantically-meaningful variable(s) using programming by example

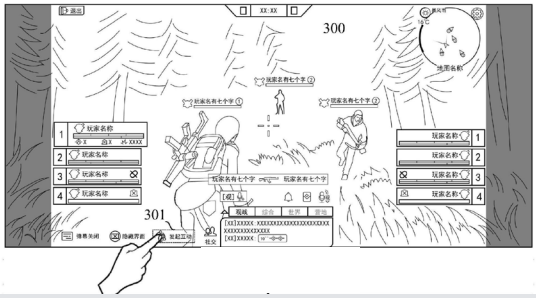
**Publicación:** Espacenet **/ Fecha:** 07/09/2023

Prompt engineering

**Solicitante:** MICROSOFT TECHNOLOGY LICENSING LLC [US]

Techniques are described herein that are capable of synthesizing a computer program to include idiomatic function(s) and semantically-meaningful variab...(+)

Ver más...




## Spectator interaction method and apparatus, and device, storage medium and program product

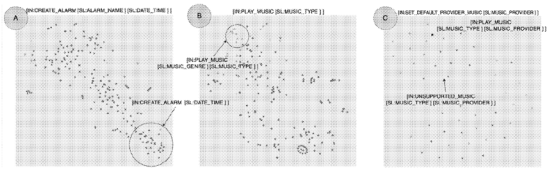
**Publicación:** Espacenet / **Fecha:** 07/09/2023

E-sports

**Solicitante:** TENCENT TECH SHENZHEN CO LTD [CN]

This application discloses a game viewing interaction method, device, equipment, storage medium and program product, relating to the field of Internet technology. The method includes: displaying a vie...(+)

Ver más...



## Systems and Methods for Implementing Smart Assistant Systems

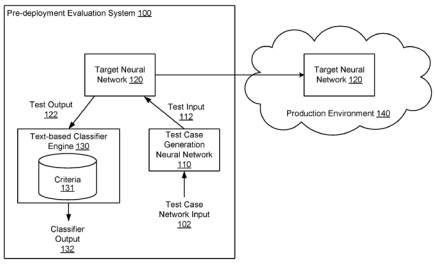
**Publicación:** Espacenet / **Fecha:** 03/08/2023

Prompt engineering

**Solicitante:** META PLATFORMS INC [US]

In one embodiment, a system includes an automatic speech recognition (ASR) module, a natural-language understanding (NLU) module, a dialog manager, one or more agents, an arbitrator, a delivery system, one or more processors, and a non-transitory memory coupled to the processors comprising instruct...(+)

Ver más...




## Performance of a neural network using automatically uncovered failure cases

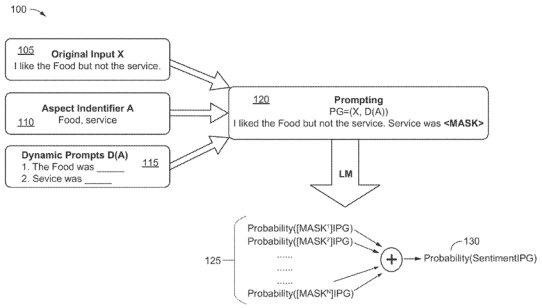
**Publicación:** Espacenet / **Fecha:** 27/07/2023

Prompt engineering

**Solicitante:** DEEPMIND TECH LTD [GB]

Methods, systems, and apparatus, including computer programs encoded on a computer storage medium, for adjusting a target neural network using automatically generated test cases before deployment of the target neural network in a deployment environment. One of the methods may include generat...(+)

Ver más...




## Aspect prompting framework for language modeling

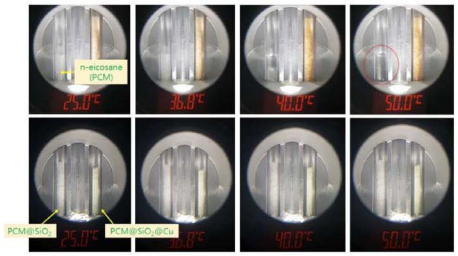
**Publicación:** Espacenet / **Fecha:** 27/07/2023

Prompt engineering

**Solicitante:** ORACLE INT CORP [US]

Techniques for dynamically developing a contextual set of prompts based on relevant aspects extracted from s set of training data. One technique includes obtaining training data comprising text examples and associated labels, extracting aspects from the training data, generating prompting templates based on the training ...(+)

Ver más...




## Manufacturing method of organic-inorganic hybrid capusle type phase change materials with excellent thermal conductivity and shape stability

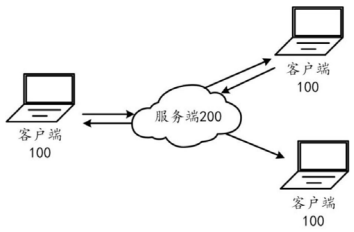
**Publicación:** Espacenet / **Fecha:** 24/07/2023

Hybrid-nanofluids

**Solicitante:** YEUNGNAM UNIV [KR]

The present invention relates to a method for producing an organic-inorganic hybrid encapsulated phase change material (PCM) with excellent thermal conductivity and morphological stability, and п...(+)

Ver más...




## Data relationship identification, automatic question and answer and query statement generation method

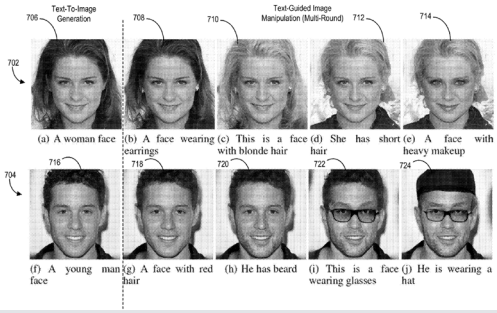
**Publicación:** Espacenet / **Fecha:** 21/07/2023

Prompt engineering

**Solicitante:** ALIBABA CHINA CO LTD

The embodiment of the invention provides a data relation recognition method, an automatic question answering method and a query statement generation method, and the data relation recognition method comprises the steps that an original labeling seque...(+)

Ver más...




## Utilizing a generative neural network to interactively create and modify digital images based on natural language feedback

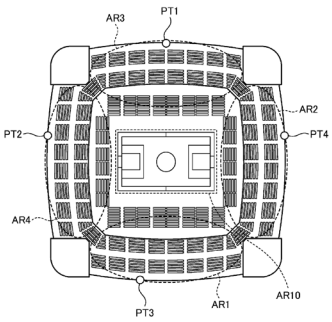
**Publicación:** Espacenet / **Fecha:** 20/07/2023

Prompt engineering

**Solicitante:** ADOBE INC [US]

The present disclosure relates to systems, non-transitory computer-readable media, and methods that implement a neural network framework for interactive multi-round image generation from nat...(+)

Ver más...




## Information processing device and information processing method

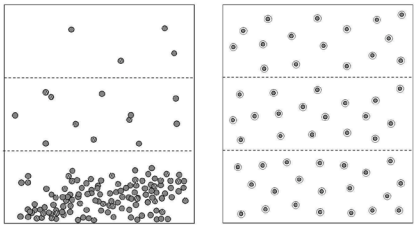
**Publicación:** Espacenet / **Fecha:** 29/06/2023

E-sports

**Solicitante:** SONY GROUP CORP [JP]

An information processing device according to the present disclosure includes: an acquisition unit for acquiring state information indicating the state of a first user in real-time viewing of an event and an event content, which is a video of the event, said first user being a user having viewed the event in real time; and a genera...(+)

Ver más...



## Lubricant additive

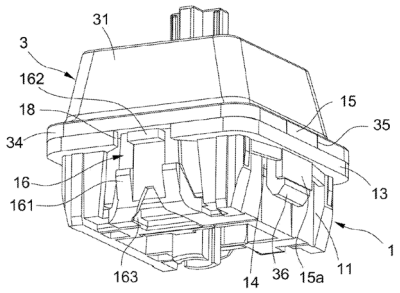
**Publicación:** Espacenet / **Fecha:** 29/06/2023

Hybrid-nanofluids

**Solicitante:** KONASOL CO LTD [KR]

One embodiment of the present invention includes a plurality of nanoparticles; and a base oil in which the plurality of nanoparticles are dispersed, wherein each of the plurality of nanoparticles includes: a core: a shell surrounding the core; and a ceramic layer surrounding the core between the core and the shell.

Ver más...




## Improved key structure for keyboard

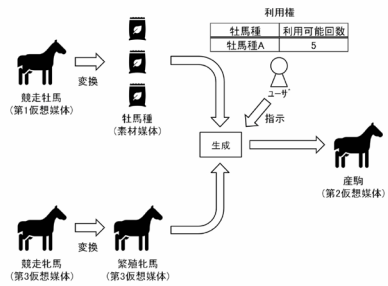
**Publicación:** Espacenet / **Fecha:** 29/06/2023

E-sports

**Solicitante:** VOYETRA TURTLE BEACH INC [US]

An improved key structure for a keyboard may be installed on a keyboard iron plate and comprises lower housing and upper housings. The lower housing has a lower peripheral wall which has a lower bulge portion thereon, both side surfaces of the lower peripheral wall have a pair of elastic arms thereon that have a latching portion and a pulling portion thereon. The up...(+)

Ver más...




## Game program and game system

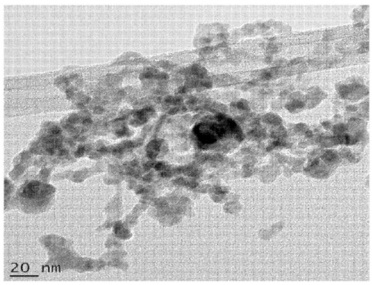
**Publicación:** Espacenet / **Fecha:** 27/06/2023

E-sports

**Solicitante:** COPCOM CO LTD

To manage transactions of a usage right to utilize a material medium.SOLUTION: A progress part 201 progresses a game including a first event that is performed by utilizing a first virtual medium and a second event for generating a second virtual medium by utilizing a material medium related to the first virtual medium, and a third virtual mediur...(+)

Ver más...




## Method for producing nanofluids using laser ablation, corresponding nanofluids and laser ablation system for producing nanofluids

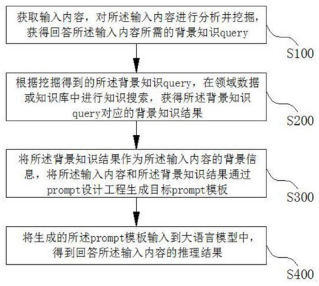
**Publicación:** Espacenet / **Fecha:** 27/06/2023

Hybrid-nanofluids

**Solicitante:** UNIV SOUTH AFRICA

The invention relates to a method of manufacturing a nanofluid (30) comprising laser ablation of a target (14) on the surface of which a liquid flows. The method comprises the step of moving the target (14) and the ...(+)

Ver más...




## Large language model knowledge enhancement method and system, electronic equipment and medium

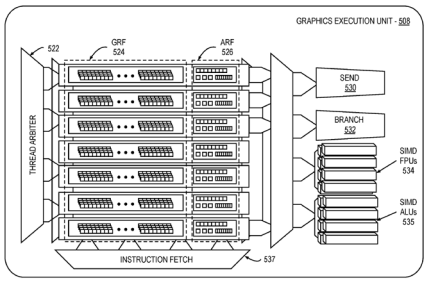
**Publicación:** Espacenet **/ Fecha:** 23/06/2023

Prompt engineering

**Solicitante:** NOCODE TECH HANGZHOU CO LTD

The invention discloses a big language model knowledge enhancement method and system, electronic equipment and a medium, and the method comprises the steps: obtaining input content, analyzing and mining the input content, and ...(+)

Ver más...




## Systems and methods for improved efficient e-sports spectator mode through use of gpu attached non-volatile memory

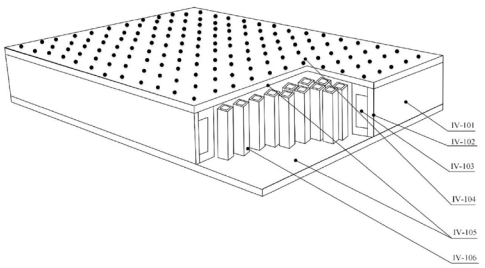
**Publicación:** Espacenet **/ Fecha:** 15/06/2023

E-sports

**Solicitante:** INTEL CORP [US]

Described herein is a cloud-based gaming system in which multiple views of a spectated E-sports event can be rendered and combined into an immersive video having at least three degrees of freedom. Low-lat ...(+)

Ver más...




## Multi-energy-field nano lubricant micro-scale bone grinding machining measuring system

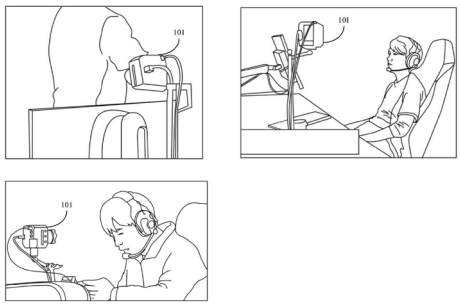
**Publicación:** Espacenet **/ Fecha:** 17/06/2023

Hybrid-nanofluids

**Solicitante:** QINGDAO UNIV OF TECH

To provide a multi-energy-field nano lubricant micro-scale bone grinding machining measuring system. SOLUTION: The multi-energy-field nano lubricant micro-scale bone grinding machining measuring system comprises: a three-dimensional displacem...(+)

Ver más...




## Live broadcast camera system, method, device and equipment and storage medium

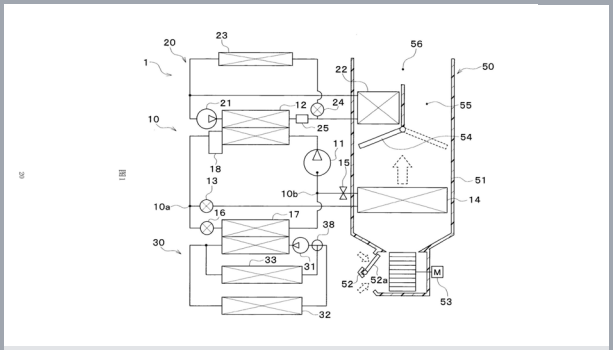
**Publicación:** Espacenet **/ Fecha:** 02/06/2023

E-sports

**Solicitante:** TENGJING SPORTS CULTURE DEV SHANGHAI CO LTD

The invention discloses a live broadcast camera system, method, device and equipment and a storage medium, and belongs to the technical field of computers. The system comprises a camera arranged at a live br ...(+)

Ver más...



## Refrigeration cycle device

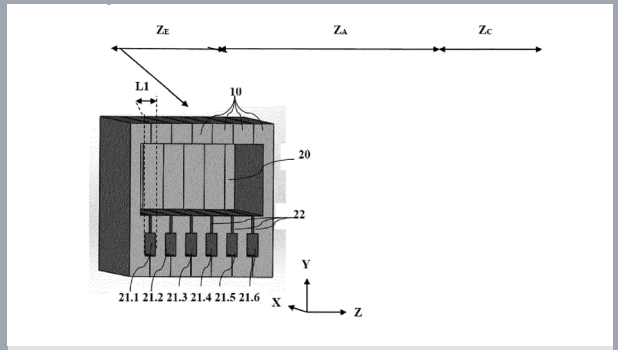
**Publicación:** Espacenet / **Fecha:** 30/05/2023

Hybrid-nanofluids

**Solicitante:** DENSO CORP

Comprises: a compressor (11) that sucks a refrigerant, compresses the refrigerant, and discharges the compressed refrigerant; heat dissipation units (12, 20, 22) that exchange heat between the refrigerant discharged from the compressor and air blown into the space to be air-conditioned and dissipate heat to the air; a first pressure reduction unit (13) capab ...(+)

Ver más...



## Capillary-pumped-type heat pipe with re-entrant grooves, having increased thermal conductivity

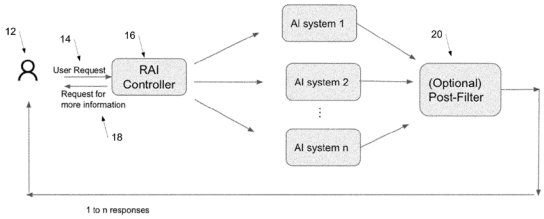
**Publicación:** Espacenet / **Fecha:** 27/04/2023

Hybrid-nanofluids

**Solicitante:** COMMISSARIAT ENERGIE ATOMIQUE [FR]; AIRBUS DEFENCE & SPACE SAS [FR]

The invention essentially consists of a heat pipe with re-entrant grooves, having thicker walls between liquid channels in the evaporator and, advantageously, in the condenser, unlike in the heat pipes of the prio...(+)

Ver más...




## Responsible Artificial Intelligence Controller

**Publicación:** Espacenet / **Fecha:** 20/04/2023

Prompt engineering

**Solicitante:** Google LLC [US]

Generally, the present disclosure is directed to systems and methods that include and/or leverage a responsible artificial intelligence controller to provide context-specific responsible artificial intelligence control. The responsible AI controller (RAI Controller) is a solution to the problem of a single model ...(+)

Ver más...

PRISMA
de espaitec

SEPTIEMBRE
OCTUBRE
2023

# Informes sectoriales

## Guía de Ingeniería de Prompt

**Fuente:** Promptingguide.ai / **Fecha:** 09/10/2023

Prompt engineering

La ingeniería de prompt es una disciplina relativamente nueva para el desarrollo y la optimización de prompts para utilizar eficientemente modelos de lenguaje (ML) en una amplia variedad de aplicaciones y temas de investigación. Las habilidades de ingeniería de prompt ayudan a comprender mejor las capacidades y limitaciones de los grandes modelos de lenguaje (LLM). Los investigadores utilizan la ingeniería de prompt para mejorar la capacidad de los LLM en una amplia gama de tareas comunes y complejas, como responder preguntas y raz...(+)

Descargar

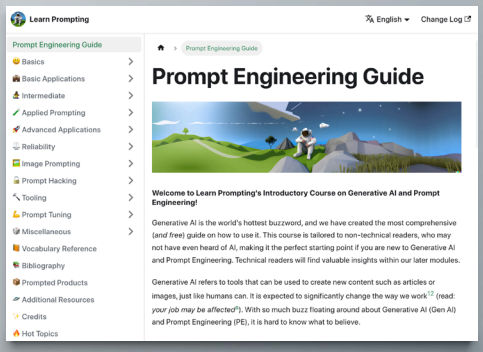
## Learn Prompting

**Fuente:** LearnPrompting.org / **Fecha:** 02/09/2023

Prompt engineering

Welcome to Learn Prompting's Introductory Course on Generative AI and Prompt Engineering! Generative AI is the world's hottest buzzword, and we have created the most comprehensive (and free) guide on how to use it. This course is tailored to non-technical readers, who may not have even heard of AI, making it the perfect starting point if you are new to Generative AI and Prompt Engineering. Technical readers will find valuable insights within our later modules. Generative AI refers to tools that can be used to create new content such as articles or i...(+)

Descargar



## Newzoo's Global Games Market Report 2023

**Fuente:** Newzoo.com / **Fecha:** 08/08/2023

E-sports

Unlock the Future of Gaming with Newzoo's 2023 Global Games Market Report. Explosive Growth: The number of global gamers will hit 3.38 billion in 2023, generating revenues of $187.7 billion. Industry Leaders: Tencent, Sony, and Apple dominate the 2023 charts, steering the direction of the gaming industry. Cutting-Edge Trends: From live-service gaming booms to the disruptive impact of generative AI—get a taste of what's shaping the future of gaming.

Descargar

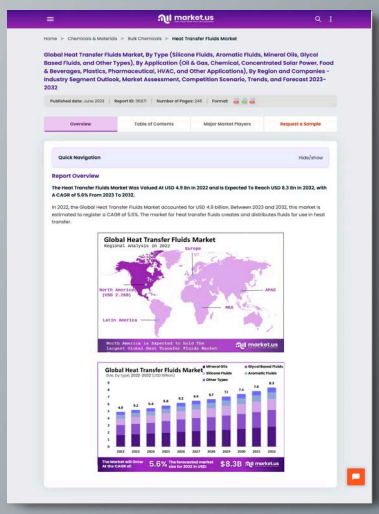
## Global Heat Transfer Fluids Market, By Type

**Fuente:** Market.us / **Fecha:** 01/06/2023

Hybrid-nanofluids

The Heat Transfer Fluids Market Was Valued At USD 4.9 Bn In 2022 and Is Expected To Reach USD 8.3 Bn In 2032, with A CAGR of 5.6% From 2023 To 2032. In 2022, the Global Heat Transfer Fluids Market accounted for USD 4.9 billion. Between 2023 and 2032, this market is estimated to register a CAGR of 5.6%. The market for heat transfer fluids creates and distributes fluids for use in heat transfer. A number of industries may utilize heat transfer fluids to move heat from one place to another. Heat transfer fluids are used in industrial op...(+)

Descargar



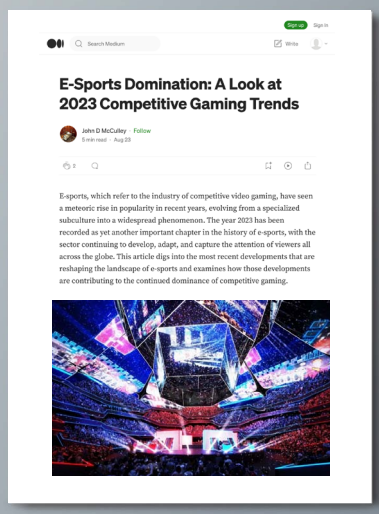

## E-Sports Domination: A Look at 2023 Competitive Gaming Trends

**Fuente:** Medium.com / **Fecha:** 23/08/2023

E-sports

E-sports, which refer to the industry of competitive video gaming, have seen a meteoric rise in popularity in recent years, evolving from a specialized subculture into a widespread phenomenon. The year 2023 has been recorded as yet another important chapter in the history of e-sports, with the sector continuing to develop, adapt, and capture the attention of viewers all across the globe. This article digs into the most recent developments that are reshaping the landscape ...(+)

Descargar



SEPTIEMBRE
OCTUBRE
2023

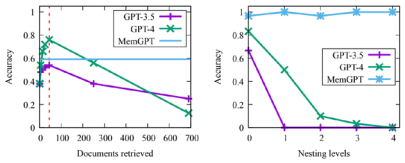
# Publicaciones científicas

## MemGPT: Towards LLMs as Operating Systems

**Fuente:** Arxiv.org
**Fecha:** 12/10/2023

Prompt engineering

Large language models (LLMs) have revolutionized AI, but are constrained by limited context windows, hindering their utility in tasks like extended conversations and document analysis. To enable using context beyond limited context windows, we propose virtual context management, a technique drawing inspiration from hierarchical memory systems in traditional operating systems that provide the appearance of large memory resources through data movement between fast and slow memory. Using this technique, we introduce MemGPT (Memory-GPT), a system that intelligently manages different ...(+)



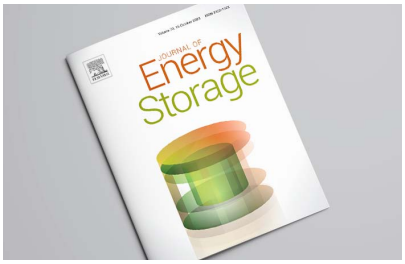

Ver más...

## Photothermal properties and performance of hybrid carbon-paraffin/water emulsions

**Fuente:** Sciencedirect.com
**Fecha:** 09/10/2023

Hybrid-nanofluids

Solar thermal energy has attracted renewed research interest for its excellent energy efficiency among different types of solar technologies. However, the limiting factor of them all is the intermittent nature of solar radiation. To overcome this drawback, it is possible to store absorbed light in form of heat using emulsions with phase-change materials (PCMs) dispersed in solar nanofluids by combining the advantage of solar thermal storage characteristics of PCMs and the higher light absorption capacity of solar nanofluids. In this study, paraffin/water and hybrid carbon-paraffin/water emulsions with 5 ...(+)




Ver más...

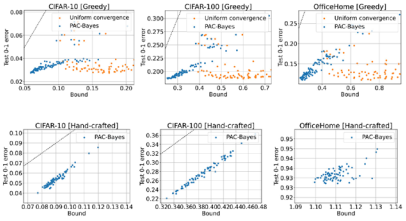
## Understanding prompt engineering may not require rethinking generalization

**Fuente:** Arxiv.org
**Fecha:** 06/10/2023

Prompt engineering

Carnegie Mellon University

Zero-shot learning in prompted vision-language models, the practice of crafting prompts to build classifiers without an explicit training process, has achieved impressive performance in many settings. This success presents a seemingly surprising observation: these methods suffer relatively little from overfitting, i.e., when a prompt is manually engineered to achieve low error on a given training set (thus rendering the method no longer actually zero-shot), the approach still performs well on held-out test data. In this paper, we show that we can explain such performance well via recourse to classical ...(+)




Ver más...

## DSPy: Compiling Declarative Language Model Calls into Self-Improving Pipelines

**Fuente:** Arxiv.org
**Fecha:** 05/10/2023

Prompt engineering

Stanford University

The ML community is rapidly exploring techniques for prompting language models (LMs) and for stacking them into pipelines that solve complex tasks. Unfortunately, existing LM pipelines are typically implemented using hard-coded "prompt templates", i.e. lengthy strings discovered via trial and error. Toward a more systematic approach for developing and optimizing LM pipelines, we introduce DSPy, a programming model that abstracts LM pipelines as text transformation graphs, i.e. imperative computational graphs where LMs are invoked through declarative modules. DSPy modules are parameter...(+)

```
qa = dspy.Predict("question -> answer")
qa(question="Where is Guaraní spoken?")
# Out: Prediction(answer='Guaraní is spoken mainly in South America.')
```

```
class ChainOfThought(dspy.Module):
    def __init__(self, signature):
        # Modify signature from 'inputs -> outputs' to 'inputs -> rationale, outputs'.
        rationale_field = dspy.OutputField(prefix="Reasoning: Let's think step by step.")
        signature = dspy.Signature(signature).prepend_output_field(rationale_field)

        # Declare a sub-module with the modified signature.
        self.predict = dspy.Predict(signature)

    def forward(self, **kwargs):
        # Just forward the inputs to the sub-module.
        return self.predict(**kwargs)
```

Ver más...

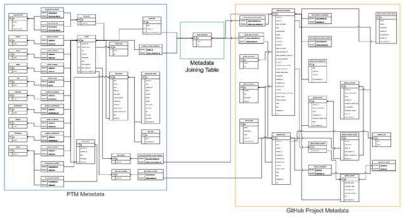
## PeaTMOSS: Mining Pre-Trained Models in Open-Source Software

**Fuente:** Arxiv.org
**Fecha:** 05/10/2023

Prompt engineering

UNIVERSITY OF MICHIGAN

Developing and training deep learning models is expensive, so software engineers have begun to reuse pre-trained deep learning models (PTMs) and fine-tune them for downstream tasks. Despite the wide-spread use of PTMs, we know little about the corresponding software engineering behaviors and challenges. To enable the study of software engineering with PTMs, we present the PeaTMOSS dataset: Pre-Trained Models in Open-Source Software. PeaTMOSS has three parts: a snapshot of (1) 281,638 PTMs, (2) 27,270 open-source software repositories that use PTMs, and (3) a mapping bet...(+)




Ver más...

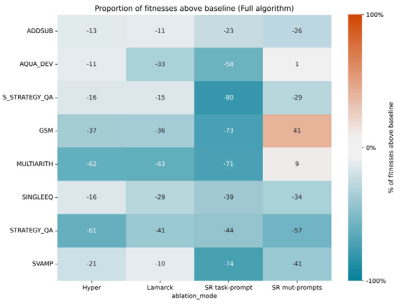
## Promptbreeder: Self-Referential Self-Improvement Via Prompt Evolution

**Fuente:** Arxiv.org
**Fecha:** 28/09/2023

Prompt engineering

Google DeepMind

Popular prompt strategies like Chain-of-Thought Prompting can dramatically improve the reasoning abilities of Large Language Models (LLMs) in various domains. However, such hand-crafted prompt-strategies are often sub-optimal. In this paper, we present Promptbreeder, a general-purpose self-referential self-improvement mechanism that evolves and adapts prompts for a given domain. Driven by an LLM, Promptbreeder mutates a population of task-prompts, and subsequently evaluates them for fitness on a training set. Crucially, the mutation of these task-prompts is governed by n...(+)




Ver más...

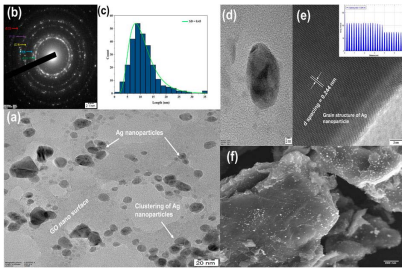
## Augmenting the double pipe heat exchanger efficiency using varied molar Ag ornamented graphene oxide (GO) nanoparticles aqueous hybrid nanofluids

**Fuente:** Frontiersin.org
**Fecha:** 28/07/2023

Hybrid-nanofluids

KALASALINGAM
ACADEMY OF RESEARCH AND EDUCATION

The optimization of heat transfer in heat exchanging equipment is paramount for the efficient management of energy resources in both industrial and residential settings. In pursuit of this goal, this empirical study embarked on enhancing the heat transfer performance of a double pipe heat exchanger (DPHX) by introducing silver (Ag)-graphene oxide (GO) hybrid nanofluids into the annulus of the heat exchanger. To achieve this, three distinct molar concentrations of Ag ornamented GO hybrid nanoparticles were synthesized by blending GO nanoparticles with silver nitrate at molarities of 0.03 M, 0.06 M ...(+)




Ver más...

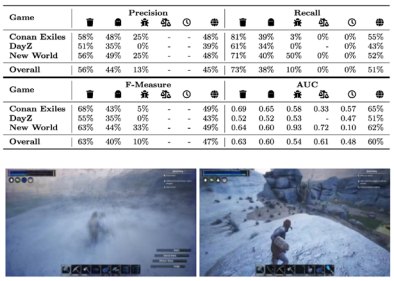
## Using Gameplay Videos for Detecting Issues in Video Games

**Fuente:** Arxiv.org
**Fecha:** 27/07/2023

E-sports

UNIVERSITÀ DEGLI STUDI DEL MOLISE

Context. The game industry is increasingly growing in recent years. Every day, millions of people play video games, not only as a hobby, but also for professional competitions (e.g., e-sports or speed-running) or for making business by entertaining others (e.g., streamers). The latter daily produce a large amount of gameplay videos in which they also comment live what they experience. But no software and, thus, no video game is perfect: Streamers may encounter several problems (such as bugs, glitches, or performance issues) while they play. Also, it is unlikely that they explicitly report such issues to develo...(+)



| Game | Precision | | | | | Recall | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conan Exiles | 58% | 48% | 25% | - | - | 48% | 81% | 39% | 3% | 0% | 0% | 55% |
| DayZ | 51% | 35% | 0% | - | - | 39% | 61% | 34% | 0% | - | 0% | 43% |
| New World | 56% | 49% | 25% | - | - | 48% | 71% | 40% | 50% | 0% | 0% | 52% |
| Overall | 56% | 44% | 13% | - | - | 45% | 73% | 38% | 10% | 0% | 0% | 51% |

| Game | F-Measure | | | | | AUC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conan Exiles | 68% | 43% | 5% | - | - | 49% | 0.69 | 0.65 | 0.58 | 0.33 | 0.57 | 65% |
| DayZ | 55% | 35% | 0% | - | - | 43% | 0.52 | 0.52 | 0.53 | - | 0.47 | 51% |
| New World | 63% | 44% | 33% | - | - | 49% | 0.64 | 0.60 | 0.93 | 0.72 | 0.10 | 62% |
| Overall | 63% | 40% | 10% | - | - | 47% | 0.63 | 0.60 | 0.54 | 0.61 | 0.48 | 60% |



Ver más...

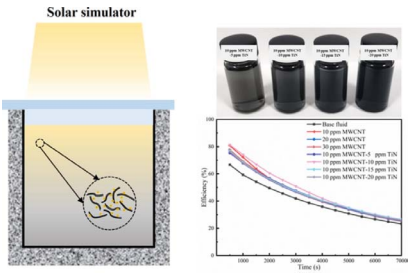
## Enhanced photothermal conversion performance of MWCNT/SiC hybrid aqueous nanofluids in direct absorption solar collectors

**Fuente:** Sciencedirect.com
**Fecha:** 12/07/2023

Hybrid-nanofluids

湖南大學
HUNAN UNIVERSITY

Nanofluids containing light-absorbing nanoparticles are potential alternative working fluids in solar collectors. In this work, a novel hybrid aqueous nanofluid containing multi-walled carbon nanotubes (MWCNTs) and SiC nanoparticles is prepared to improve the photothermal conversion ability of working fluids. The hybrid nanofluid overcomes the disadvantages of one-component nanofluids and achieves good solar absorption on the merit of the complementary optical property of MWCNTs and SiC nanoparticles. The prepared nanofluids show excellent stability due to the hydroxyl functionalizatic...(+)




Ver más...

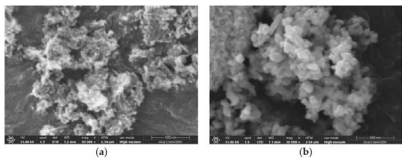
## Investigation on the Lubrication Performance of γ-Al2O3/ZnO Hybrid Nanofluids for Titanium Alloy

**Fuente:** Preprints.org
**Fecha:** 09/07/2023

Hybrid-nanofluids

北京理工大學
BEIJING INSTITUTE OF TECHNOLOGY

Titanium alloys are difficult to machine and have poor tribological properties. This paper investigates the lubricating performance of γ-Al2O3/ZnO hybrid nanofluids for Ti-6Al-4V. The pure and hybrid nanofluid are compared, and the effects of γ-Al2O3/ZnO ratios are studied. The results show that γ-Al2O3/ZnO hybrid nanofluids outperform pure nanofluid in terms of lower friction coefficients and better surface quality. Moreover, the hybrid nanofluid with a mass ratio of Al2O3 to ZnO of 2:1 demonstrates the best lubrication performance with a reduced friction coefficient of up to 22.1% comp...(+)




Ver más...

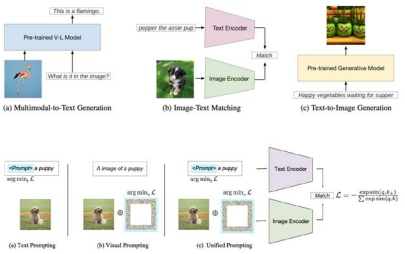
## A Systematic Survey of Prompt Engineering on Vision-Language Foundation Models

**Fuente:** Arxiv.org
**Fecha:** 24/06/2023

Prompt engineering

UNIVERSITY OF OXFORD
LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN
Berkeley UNIVERSITY OF CALIFORNIA
Google Research

Prompt engineering is a technique that involves augmenting a large pre-trained model with task-specific hints, known as prompts, to adapt the model to new tasks. Prompts can be created manually as natural language instructions or generated automatically as either natural language instructions or vector representations. Prompt engineering enables the ability to perform predictions based solely on prompts without updating model parameters, and the easier application of large pre-trained models in real-world tasks. In past years, Prompt engineering has been well-studied in natural language prc...(+)




Ver más...

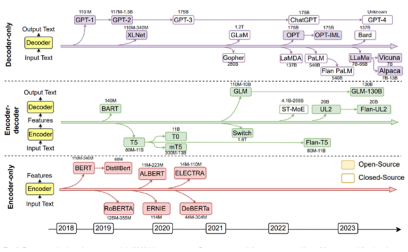
## Unifying Large Language Models and Knowledge Graphs: A Roadmap

**Fuente:** Arxiv.org
**Fecha:** 20/06/2023

Prompt engineering

Griffith UNIVERSITY

Large language models (LLMs), such as ChatGPT and GPT4, are making new waves in the field of natural language processing and artificial intelligence, due to their emergent ability and generalizability. However, LLMs are black-box models, which often fall short of capturing and accessing factual knowledge. In contrast, Knowledge Graphs (KGs), Wikipedia and Huapu for example, are structured knowledge models that explicitly store rich factual knowledge. KGs can enhance LLMs by providing external knowledge for inference and interpretability. Meanwhile, KGs are difficult to construct and evc...(+);




Ver más...

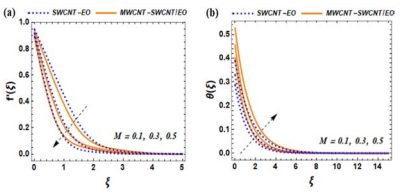
## Enhancing heat transfer in solar-powered ships: a study on hybrid nanofluids with carbon nanotubes and their application in parabolic trough solar collectors with electromagnetic controls

**Fuente:** Nature.com
**Fecha:** 18/06/2023

Hybrid-nanofluids

MIZAN-TEPI UNIVERSITY

The aim of this research is to explore the use of solar-powered ships (SPS) as a means to reduce greenhouse gas emissions and fossil fuel dependency in the maritime industry. The study focuses on improving the heat transfer efficiency in SPS by employing hybrid nanofluids (HNF) containing carbon nanotubes (CNTs). Additionally, a novel approach utilizing renewable energy and electromagnetic control is proposed to enhance the performance of SPS. The research implements the non-Newtonian Maxwell type and Cattaneo–Christov heat flux model in parabolic trough solar collectors ...(+)




Ver más...

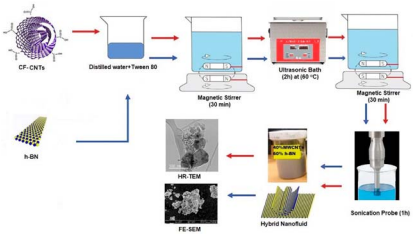
## Multiwalled carbon nanotubes-titanium dioxide nanocomposite for flat plate solar collectors applications

**Fuente:** Sciencedirect.com
**Fecha:** 05/06/2023

Hybrid-nanofluids

جامعة الملك فهد للبترول والمعادن
King Fahd University of Petroleum & Minerals

This study focuses on the thermal and rheological properties of a hybrid fluid consisting of Titanium Dioxide/Chemically functionalized Multi-Walled Carbon Nanotubes (TiO2 / CF-MWCNTs) suspended in distilled water (DW) for use in flat plate solar collectors applications. The optimal hybridization ratio of CF-MWCNTs: TiO2 was 40:60. To evaluate thermal efficiency, solar collector tests were conducted using varying flow rates "2LPM, 3LPM, and 4 LPM" according to the ASHRAE'93-2010' principle. The study examined the effects of various weight percentages of TiO2/ CF-MWCNTs add up to the DW as wo ...(+);




Ver más...

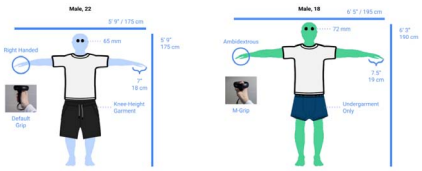
## Results of the 2023 Census of Beat Saber Users: Virtual Reality Gaming Population Insights and Factors Affecting Virtual Reality E-Sports Performance

**Fuente:** Arxiv.org
**Fecha:** 30/05/2023

E-sports

Berkeley
UNIVERSITY OF CALIFORNIA

The emergence of affordable standalone virtual reality (VR) devices has allowed VR technology to reach mass-market adoption in recent years, driven primarily by the popularity of VR gaming applications such as Beat Saber. However, despite being the top-grossing VR application to date and the most popular VR e-sport, the population of over 6 million Beat Saber users has not yet been widely studied. In this report, we present a large-scale comprehensive survey of Beat Saber players (N=1,006) that sheds light on several important aspects of this population, including their background, biometrics, demograp...(+),



Ver más...

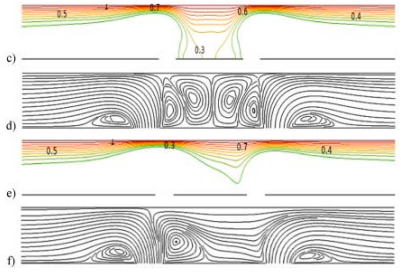
## Qualitative modeling of solar panel cooling by nanofluid jets: Heat transfer and second law analysis

**Fuente:** Sciencedirect.com
**Fecha:** 01/05/2023

Hybrid-nanofluids

UNIVERSITE DE GABES
جامعة قابس

The present paper highlights heat transfer and entropy generation due to mixed convection for an inclined channel. The channel is heated by its upper wall and cooled by two jets of nanofluids penetrating through its lower wall. The studied configuration is chosen to model, in qualitative way, a cooling system for photovoltaic panel. The set of partial differential equations that governing the flow was numerically solved using COMSOL software. Effects of the inclination angle of the channel, Reynolds number and nanoparticles fraction, on heat transfer, hydrodynamic and created entropy are examined. ...(+)



Ver más...

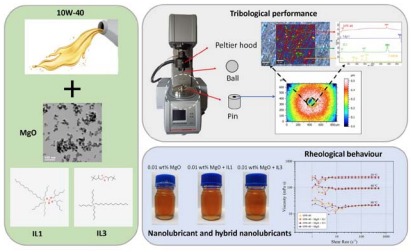
## Experimental investigation of tribological and rheological behaviour of hybrid nanolubricants for applications in internal combustion engines

**Fuente:** Minerva.usc.es
**Fecha:** 21/03/2023

Hybrid-nanofluids

USC
UNIVERSIDADE DE SANTIAGO DE COMPOSTELA

In this study, the improvement in SAE 10W-40 engine oil tribological performance after the addition of magnesium oxide (MgO) nanoadditive and two different phosphonium-based ionic liquids (ILs) was investigated. Besides, the rheological behaviour of MgO-based nanolubricant and IL-based hybrid nanolubricants at the temperature range from 293.15 to 363.15 K was studied. The nanoparticle characterization was performed by means of transmission electron microscopy (TEM), Fourier-transform infrared spectroscopy (FTIR), Raman spectroscopy, X-ray diffraction (XRD) and scanning electron mi...(+)




Ver más...

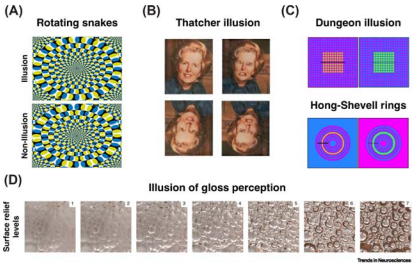
## Using artificial neural networks to ask 'why' questions of minds and brains

**Fuente:** Cell.com
**Fecha:** 17/01/2023

Prompt engineering

Massachusetts Institute of Technology

Understanding the mind and brain requires determining not only how they work, but why they work the way they do. We argue that artificial neural networks (ANNs) provide a new method for addressing 'why' questions about the brain. If an ANN optimized for a given task spontaneously produces a particular phenomenon previously observed in humans, but optimization for other tasks does not, that suggests that the phenomenon may result from optimization of the brain for that same task. We review phenomena in vision and audition (e.g., specific illusions), and of cortical organization (e.g., specializations for ...(+)




Ver más...

## CS-lol: a Dataset of Viewer Comment with Scene in E-sports Live-streaming

**Fuente:** Arxiv.org
**Fecha:** 17/01/2023

E-sports

筑波大学 University of Tsukuba

Billions of live-streaming viewers share their opinions on scenes they are watching in real-time and interact with the event, commentators as well as other viewers via text comments. Thus, there is necessary to explore viewers' comments with scenes in E-sport live-streaming events. In this paper, we developed CS-lol, a new large-scale dataset containing comments from viewers paired with descriptions of game scenes in E-sports live-streaming. Moreover, we propose a task, namely viewer comment retrieval, to retrieve the viewer comments for the scene of the live-streaming event. Results on a series of bas ...(+)

Ver más...

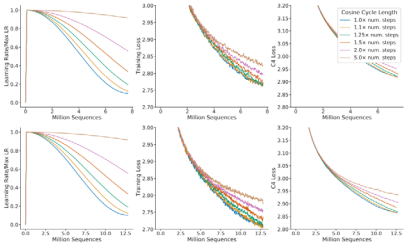
## An empirical analysis of compute-optimal large language model training

**Fuente:** Openreview.net
**Fecha:** 13/01/2023

Prompt engineering

Meta AI

We investigate the optimal model size and number of tokens for training a transformer language model under a given compute budget. We find that current large language models are significantly undertrained, a consequence of the recent focus on scaling language models whilst keeping the amount of training data constant. By training over 400 language models ranging from 70 million to over 16 billion parameters on 5 to 500 billion tokens, we find that for compute-optimal training, the model size and the number of training tokens should be scaled equally: for every doubling of model size the r ...(+)



Ver más...

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