Competitions at the 2022 IEEE Conference on Games

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~ Competitions Co-Chair ~

https://ieee-cog.org/2022/

@ieee_cog

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PPT automatic caption on this slide: "A screenshot of a video game"

Summary

- 18 competitions! (18th CiG/CoG?)
- 18 in Chinese culture: auspicious, good omen, lucky!
- Wide variety:
  - Past competitions return
  - Big competitions join CoG (marked with "NEW *")
  - Fledgling competitions look for a home ("NEW")
  - Computer games, tabletop games, robotic simulations
  - AI to play games, AI to create content, deck-building, AI to play games where play changes rules
  - Sports, fighting, puzzle, abstract, strategy, shooting, classical and modern

5ᵗʰ annual GDMC AI Settlement Generation Competition in Minecraft

Christoph Salge, University of Hertfordshire, UK, **Michael Cerny Green**, NYU, US, **Rodrigo Canaan**, Cal Poly State University, US, **Christian Guckelsberger**, Aalto University, Finland & QMUL, UK, **Jean-Baptiste Hervé**, University of Hertfordshire, UK, **Julian Togelius**, NYU, US

- General Website: http://gendesignmc.engineering.nyu.edu/

- Wiki: https://gendesignmc.wikidot.com/start

- Discord: http://discord.gg/ueaxuXj

- Twitter: @gendesignMC

The GDMC competition is about writing an algorithm that can produce an "interesting" settlement for a previously unseen Minecraft map.

? / *

NEW*
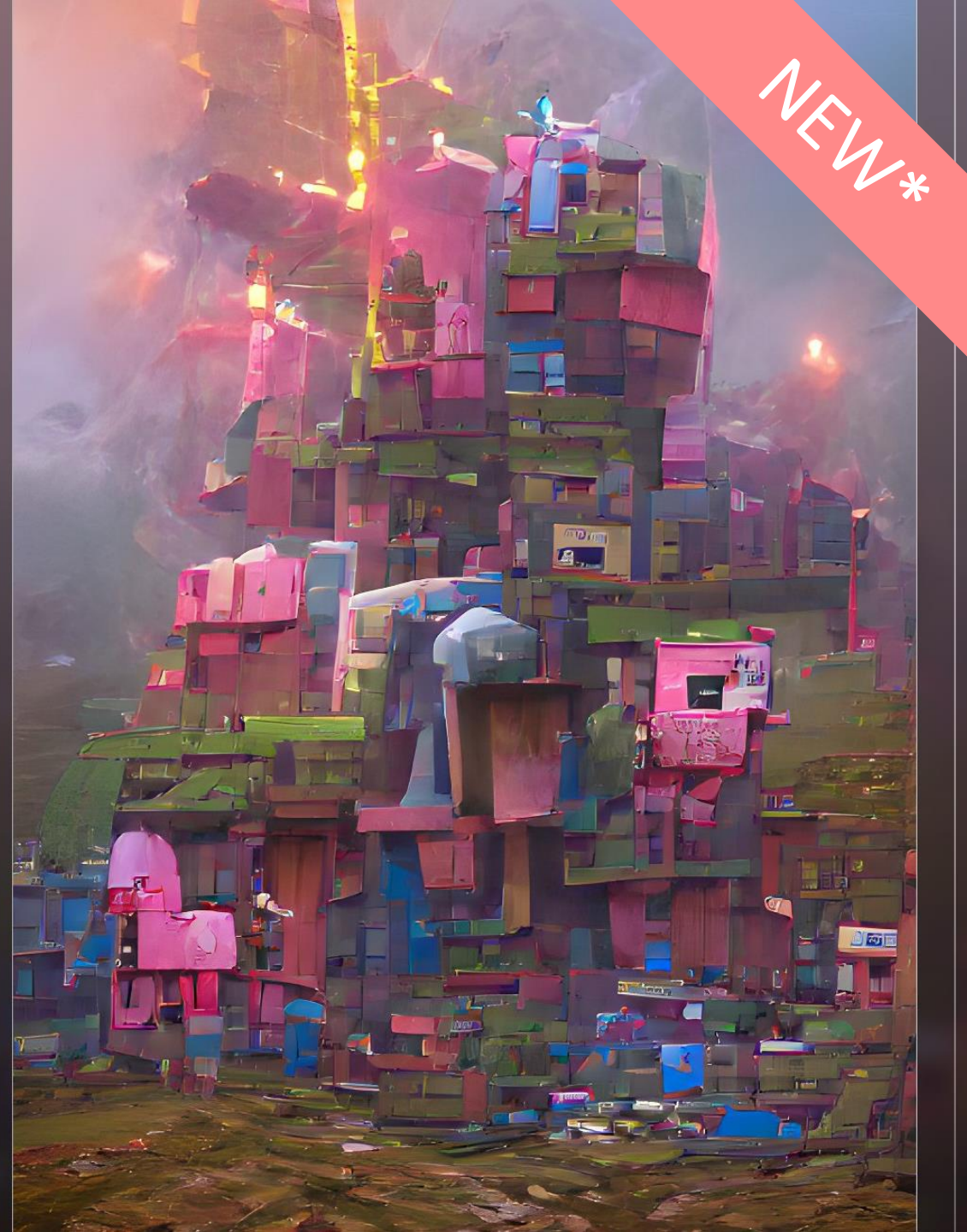
The 4th international AI Werewolf Competition

Claus Aranha & **Hirotaka Osawa** (University of Tsukuba), **Takashi Otsuki** (Yamagata University), **Fujio Toriumi** (University of Tokyo), **Yoshinobu Kano** (Shizuoka University)

- The AIWolf Project Webpage: www.aiwolf.org

- AIWolf-3: www.aiwolf.org/en/3rd-international-aiwolf-contest

The goal of this competition is to develop AI agents that can play the Werewolf game reliably well against other AI agents.

- Natural Language Track – Agents communicate using Natural Language;

- Protocol Track – Agents communicate using a pre-defined protocol;

? / *

NEW*

The Dota 2 5v5 AI Competition

José Font and **Alberto Álvarez**
Department of Computer Science and Media Technology, Malmö University (MAU)

*   https://games.mau.se/research/the-dota2-5v5-ai-competition/

The Dota 2 5v5 AI Competition challenges participants to code a bot that competes against (and wins!) other player bots in standard Dota 2 matches.
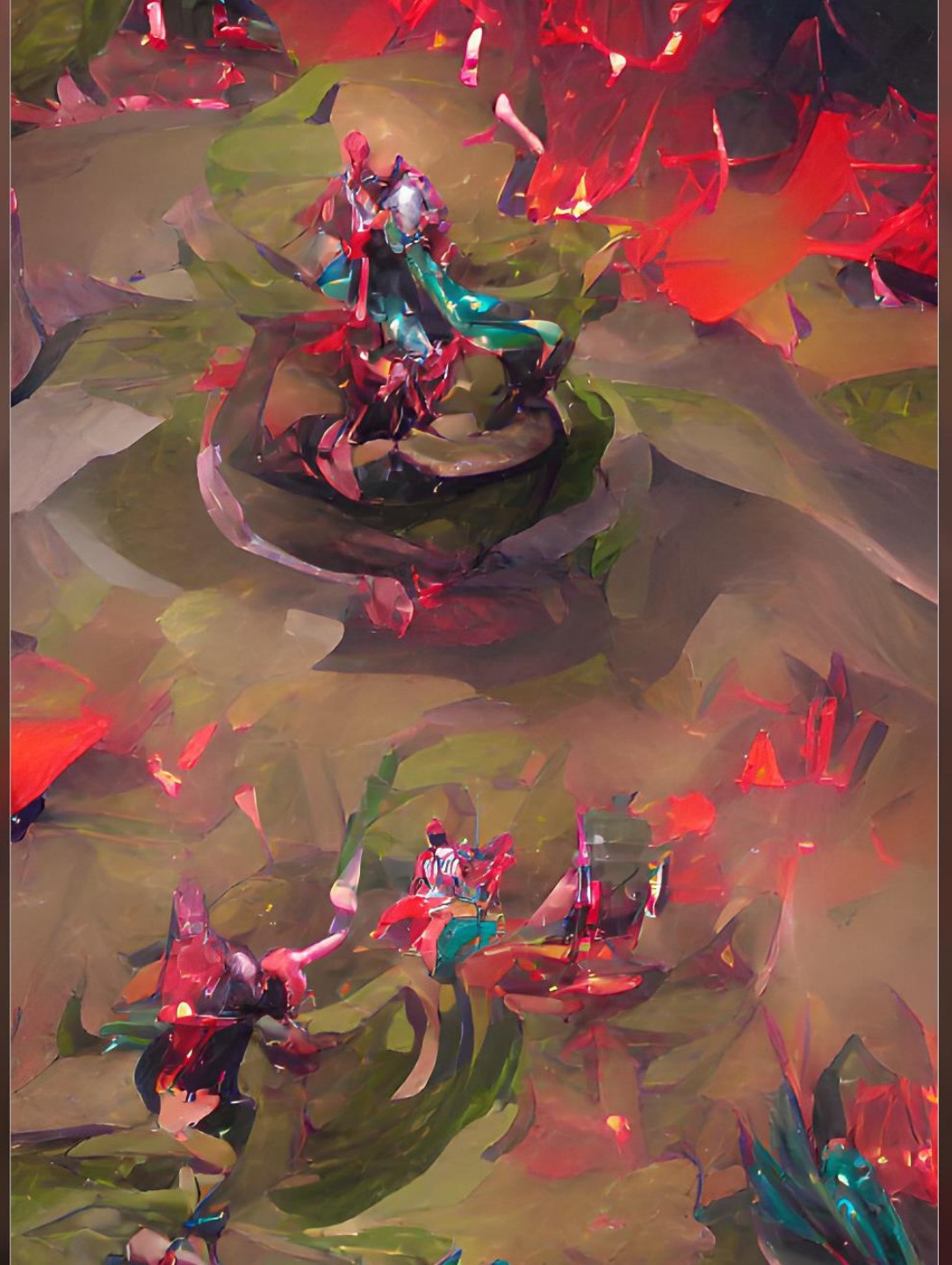
Bot Bowl IV

Niels Justesen, Modl.ai; **Sebastian Risi**, IT University of Copenhagen / Modl.ai; **Julian Togelius**, New York University / Modl.ai

- https://github.com/njustesen/botbowl

- https://njustesen.github.io/botbowl

Bot Bowl simulates the board game Blood Bowl by Games Workshop and offers APIs for scripted bots, search-based, and ML algorithms in Python.

DareFightingICE Competition

Xincheng Dai, Ibrahim Khan, Van Thai Nguyen, Ruck Thawonmas
Ritsumeikan University

- Web: https://tinyurl.com/DareFightingICE

- Video: https://youtu.be/IojUrlXibvk

- Email: ftg.aic@gmail.com

Do sound designs in video games consider visually impaired players?

- AI gameplay track: play the game from audio input only

- Sound design track: highest learning curve in automatic play, best score judged by blind/blindfolded human players.

Tabletop Games Competition: Pandemic

Martin Balla & **Raluca Gaina** (QMUL, UK), **Raul Montoliu** (Jaume I University, Spain)

- http://www.tabletopgames.ai/

Can AI players defeat a pandemic? This competition tests AI agent performance in the 4-player variant of the board game Pandemic.

Java

NEW

AI Snakes Game

Luiz Jonata Pires de Araujo, Joseph Alexander Brown, Alexandr Grintchshenko,
Innopolis University

- https://agrishchenko.wixsite.com/aisnakes2021

Can AI solve the classic game of Snakes against an opponent? The participants will once again delve into the familiar world of eating apples and avoiding their own tails, but this time they will also square off against each other in an intense battle of wits.

Enroll and lead your slithering creation to glory in AI Snakes 2022!

Keke AI Competition

M Charity, Sarah Chen, Julian Togelius, NYU, US

- http://keke-ai-competition.com/

Can AI solve puzzles where the solution involves changing the rules of the game itself?

The Keke AI competition is an AI competition where teams submit agents written in Javascript that can solve levels based on the puzzle game 'Baba is You'.

NEW
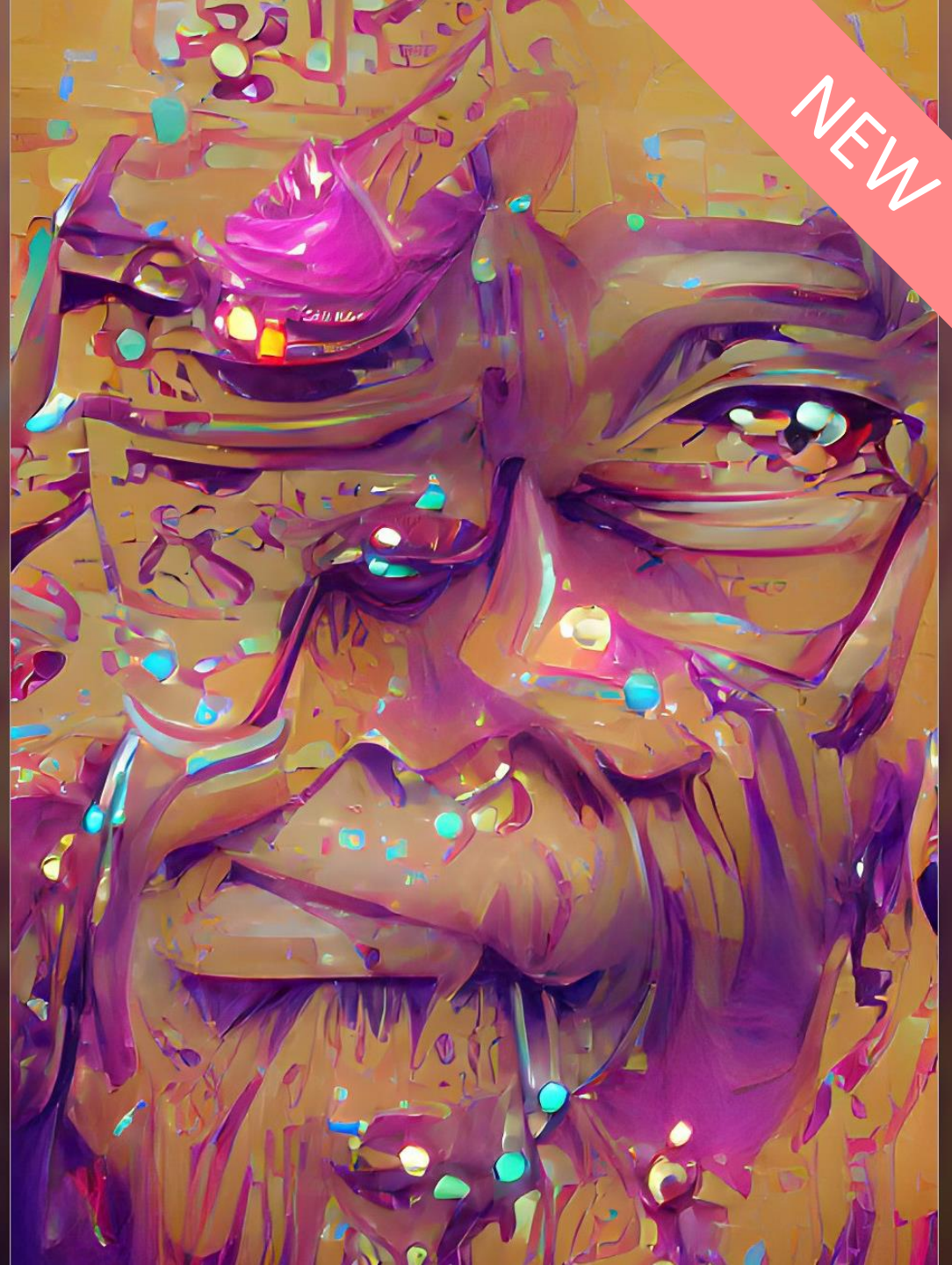
VGC AI Competition

Simão Reis, Luís Paulo Reis and Nuno Lau

- https://gitlab.com/DracoStriker/pokemon-vgc-engine/-/wikis/home

Can AI beat other opponents in Pokémon battle games?

The VGC AI Competition aims to emulate the competitive scenario of human video game championships with AI agents. Battle agents must master both Pokémon battling and Pokémon team building, with only information about past team choices.

NEW*

Football AI Competition

Haifeng Zhang, Institute of Automation, Chinese Academy of Science (CASIA)

- http://www.jidiai.cn/cog_2022/

Can AI learn to play football?

Teaching AI to play football is quite challenging because agents need to learn complex concepts such as passing and defensing. Training football agents requires a balance of short-term control and high-level strategies, including how to overcome opponent's defense in order to score goals.
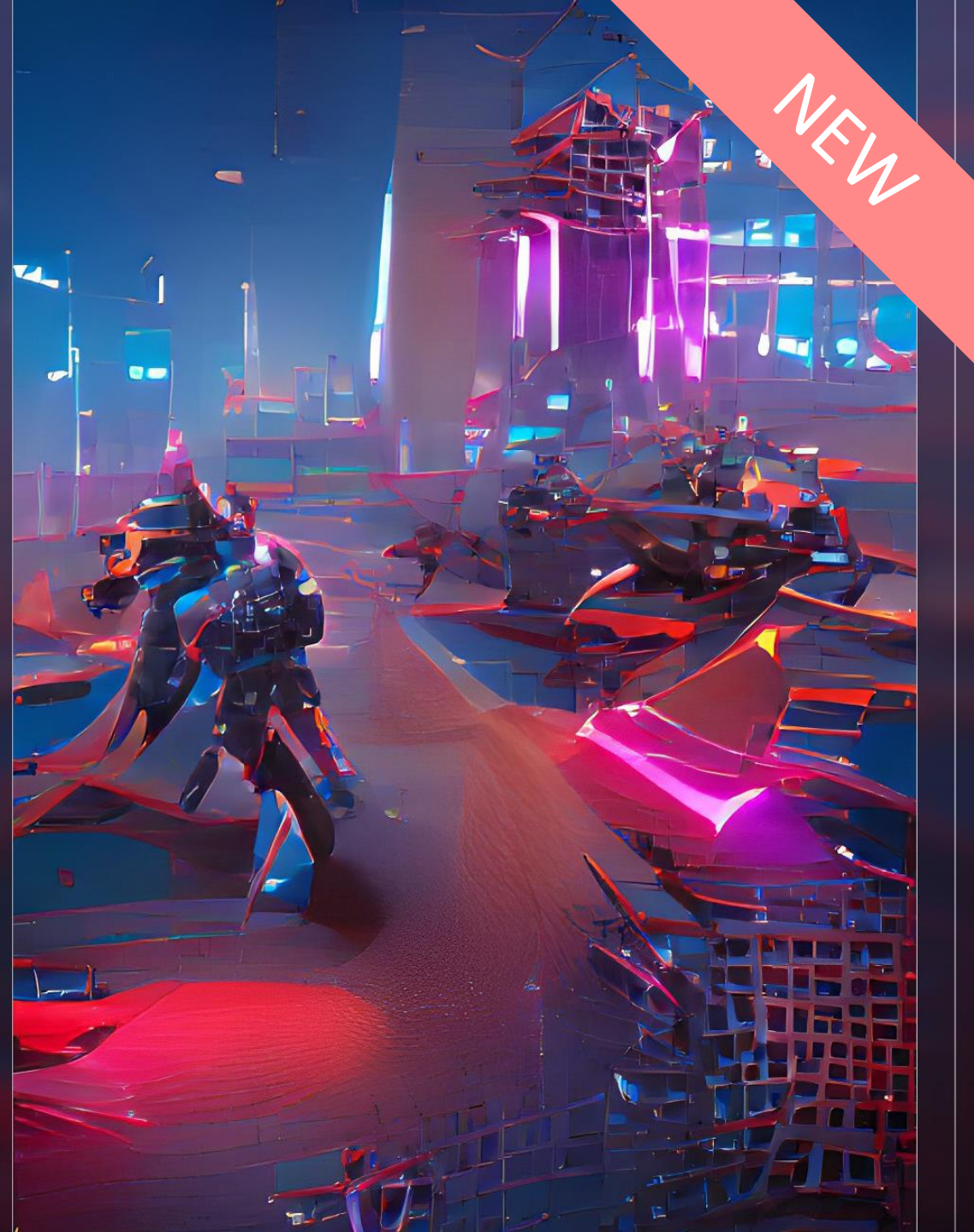

NEW

3D Open World FPS AI Competition

Inspir.ai

- http://www.inspir.ai:8089/introduction

In this competition, we provide an FPS game environment similar to popular battle royale games (e.g. PUBG), where multiple players compete against each other for limited supply resources.

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Geometry Friends Cooperative Game AI Competition

Rui Prada, Francisco S. Melo
INESC-ID and Instituto Superior Técnico, Universidade de Lisboa

- https://geometryfriends.gaips.inesc-id.pt/

The goal of the competition is to build AI agents for a 2-player collaborative physics-based puzzle platformer game (Geometry Friends). The agents each control a different character (circle or rectangle) with distinct characteristics. Their goal is to collaborate in order to collect a set of diamonds in a set of levels as fast as possible.
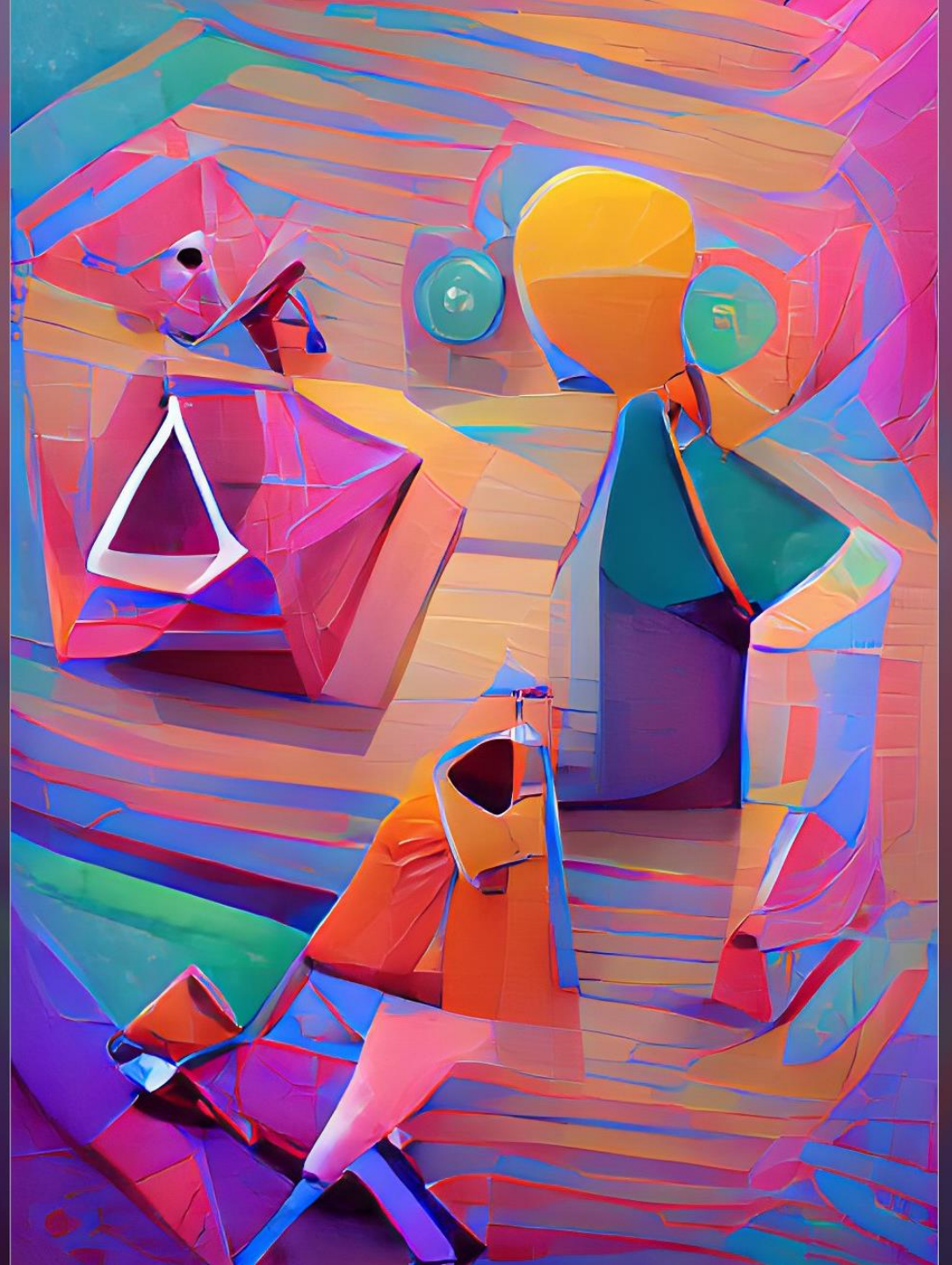
Strategy Card Game AI Competition

Jakub Kowalski and Radosław Miernik

- https://legendsofcodeandmagic.com/COG22/

The current edition introduces "Constructed Mode," where an AI agent will be presented with a set of randomly generated cards before each game, and it has to create its deck using these cards. They will then use this deck in a simple strategy card game to defeat opponents.

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StarCraft AI Competition

Cheong-mok Bae, Jaeyoung Moon, Issac Han and KyungJoong Kim

- https://cilab.gist.ac.kr/sc_competition

Can AI play StarCraft?

However, it is still quite challenging to develop AI for the game because it should handle a number of units and buildings while considering resource management and high-level tactics. The purpose of this competition is developing RTS game AI and solving challenging issues on RTS game AI such as uncertainty, real-time process, managing units.
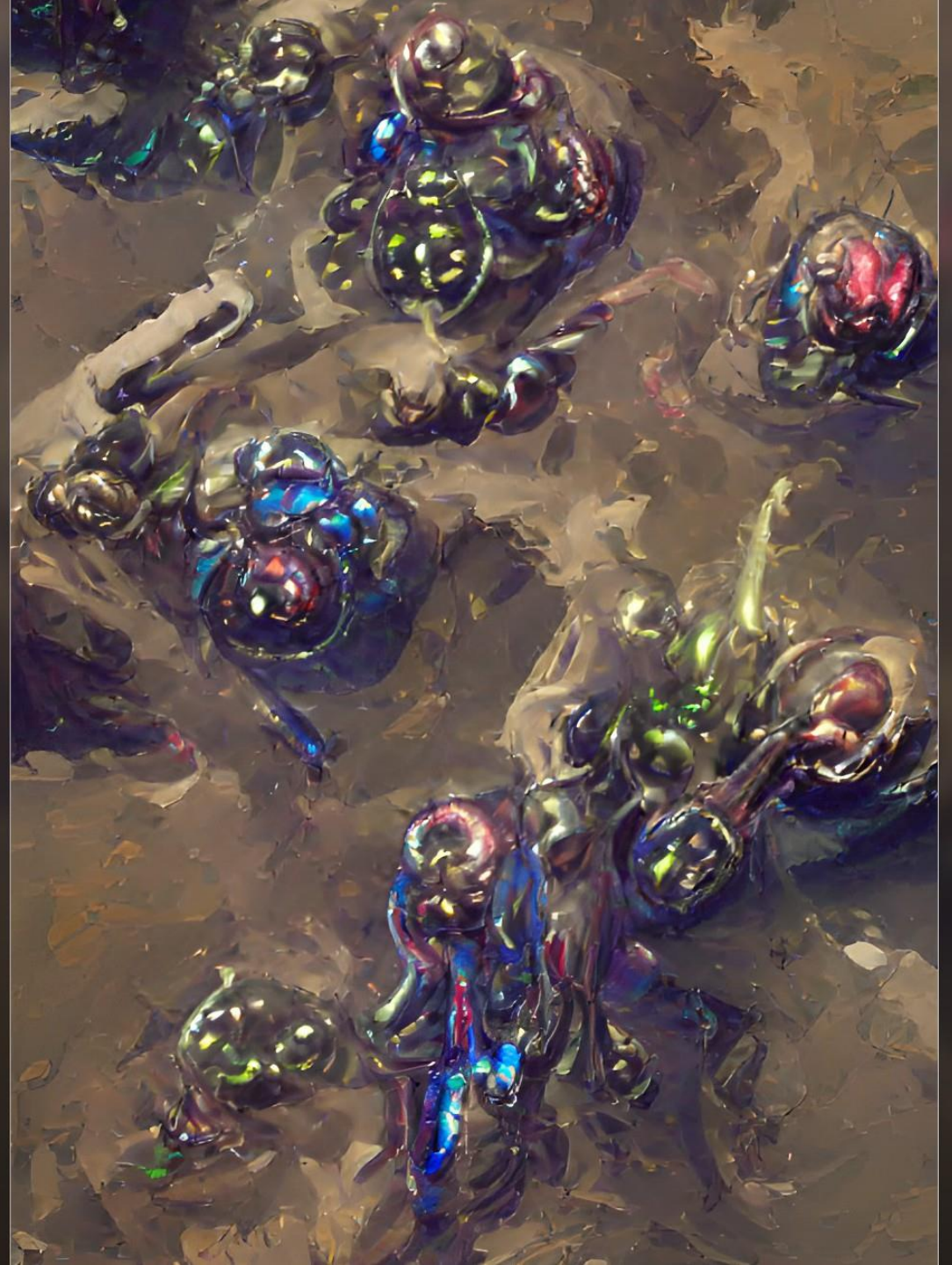
RoboMaster Sim2Real Challenge

Haoran Li, Shasha Liu, Junjie Wang, Boyu Li, Dongbin Zhao, Chinese Academy of Sciences, **Bopei Zheng,** Beijing Union University, **Qianli Ma,** SZ DJI Technology Co., Ltd

- https://sites.google.com/view/2022cogsim2real

- https://eval.ai/web/challenges/challenge-page/1513/overview

RoboMaster brings the virtual tank game to reality and realizes the Battle City in the physical world. Since 2015, with the strong promotion of DJI, RoboMaster has successfully held several competitions for different groups, which has attracted extensive attention from middle school students, college students and graduate students all over the world. It has become one of the most popular robot competitions among young engineers.

? / *

NEW*

No Go Competition

Xiaochuan Zhang (Chongqing University of Technology, China)

- Web to come soon

AI *can* play Go... but what about variants?

No Go is short for "No Capture Go" – first player to capture a stone (or runs out of other legal moves) loses the game.

10 years competition history.

? / *

NEW*

Mahjong AI Competition

Tongyuan Huang (Chongqing University of Technology), **Hongjun Li** (Chengdu University of Technology)

- https://mj.jj.cn/3032/official/#/home

Can AI play Mahjong?

Mahjong is a game for 4 players that originated in China, and announced in April 2017 as a world mind sport. The game played is played with sets of tiles made of bamboo, bone or plastic rectangular pieces, engraved with patterns or words.

? / *

NEW*

Fight the Landlord AI Competition

Yu Wu (Chongqing Three Gorges University)

- http://computergames.caai.cn/

"Fight the landlord" is one of the most popular card games played in China, with rich cultural and historical background.

3 players attempt to remove their own cards as fast as possible, after a bid competition for the landlord title. The game features asymmetric player roles and poker-like hands.

Can AI be the best landlord... or fight them?

? / *

NEW*

Find out more (soon) at https://ieee-cog.org/