HIGHLIGHT

## Can an AI outrace the best human Gran Turismo drivers in the world?



Welcome to the seventh issue of Artificial Intelligence and Data Analytics User Group (AIDA) Forecaster! Designed for AIDA User Group members, AI and Data Analytics enthusiasts, this publication contains timely and relevant information to the AI and Analytics community.

## Editorial

Dear Readers,

it is my pleasure to see you reading the new issue #7 of The Forecaster.

AIDAUG is growing, 350 members after only eight months of operations. Congratulations! Keep it coming!! Help us to top the 500 this month.



Send a copy of the Forecaster #7 to a friend or colleague you care about and recommend joining https://aidaug.org/join

In your confirmation email, you will receive your personal invitation to slack as well as your offical AIDAUG membership card.

The making of Gran Turismo AI "Sophy", Next-Gen AI Hardware, Open-sourcing analog AI simulation, Jupyter Notebooks in production, Cognos Analytics 11.2.2 is out, AI helps detecting autism earlier.

This month we gathered a lot of AI and Data Analytics related topics. So happy to share them with you.

Read it first on aidaug.org. I started publishing articles in the member-only content section. Subscribe and read them in your browser even before the Forecaster hits your inbox.

Hope that you enjoy reading and let me know your ideas and thoughts.

I invite you to send me an email. And now ... enjoy and please invite your mates!

Ralf Roeber
AIDA Forecaster Editor
ralf@aidaug.org

# Data Analytics Corner

## Data Automation, Analytics and Machine Learning Super Power

Would you take Jupyter Notebooks on production? Probably the best idea to super-charge your Data Automation, Analytics and Machine Learning.



You don't have to be a data scientist to use data science.

Jérémy Ravenel, the founder of naas.ai and Stanford Alumni, is someone you should follow, if you are interested in how opensourced naas.ai's Jupyter Notebooks super charge Netflix and data powered corporations.

https://github.com/jupyter-naas

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Learning Workshop

## Building Your First Serverless Data Pipeline on IBM Cloud

A simple definition of serverless is developing or managing an application without managing the servers. For a deep dive into all things serverless, check out our Learn Hub article "What is Serverless Computing?"

A serverless data pipeline, then, can be defined as a workflow that transfers (or ingests) data from one place to another without managing the servers.

The workshop teaches you how to extract data from one place and put it on IBM Cloud Object Storage to be further analyzed with IBM Cognos.

We invite you to find out the nice little hints that Santhosh Kumar Neerumalla and Christian Hoeboer provide to build your first data pipeline on IBM Cloud.

>>> read more (2 minute read)

Which one is easier? naas.ai or IBM Cloud Data Pipeline? Looking forward to your comments. Drop the editor a note.

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## What's new in Cognos Analytics 11.2.2?

Faster metadata updates, sorting in data trees, dynamic as_of_date parameter, log4j, data modules update ... there was a lot of stuff to be unboxed.

Ryan Dolley, Partner at PMsquare, and Craig Colangelo, Sr Solutions Architect, unboxed Cognos 11.2.2 for us during an interactive livestream.

A must see:   >>> Ryan Dolley unboxing CA 11.2.2

There is a super cool hint to hidden beta-features and how to activate them in minute 49 in the video.

### New custom filter option in reports
When you create a custom filter in a report by manually entering values, you have now the option to ignore empty values.

### Consistent experience with downloadable report formats
When you run reports that generate downloadable formats (Excel, CSV, XML), the user experience is consistent in both classic viewer and interactive viewer.

### Maintaining the state of optional prompt controls
In both classic viewer and interactive viewer, there is now a consistent approach for handling and maintaining the state of optional prompt controls after a user is reprompted or runs the report again.

### Data store improvements
The client data store now supports the numeric type for categories, correct sorting of numeric categories when filtering, null and empty strings, and filtering on null and empty strings.

And here is the link to just read all the What's New



Read it first on AIDAUG.org
members only content

**TIP of the month:**
Training courses on DATA and AI - **63 LEARNING courses free of charge**
>>> https://aidaug.org/Members-only-content/12683319

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# AI Corner

## The making of Gran Turismo

**Can an AI outrace the best human *Gran Turismo* drivers in the world?**

Meet Gran Turismo Sophy and find out how the teams at Sony AI, Polyphony Digital Inc., and Sony Interactive Entertainment worked together to create this breakthrough technology.

Gran Turismo Sophy is a groundbreaking achievement for AI, but there's more: it demonstrates the power of AI to deliver new gaming and entertainment experiences.

Fascinating to see how the AI crashed and bullied other drivers. The models were retrained and bonus given to not push competitors of the track.

Vaterio Gallo is the World Champion 2021 and said: "It's interesting how Sophy takes corners different. I would love to have an AI to train against. This is amazing. Sophy is just so fast."

>>> Watch the amazing video   10 minutes

## IBM is open-sourcing analog AI simulation

**So much of what we do every day is powered by AI. From speech-to-text messaging, or talking with a customer-service chatbot, AI is automating many aspects of our lives. But these processes consume a lot of energy.**

To train one large natural-language processing model today can require roughly the same carbon footprint as running five cars over their lifetime.

The IBM Research AI Hardware Center is working on devices, accelerators, system architectures, and associated software stacks to scale AI workflows as efficiently as possible.

IBM wants to reduce that footprint at the IBM Research AI Hardware Center in Albany, New York. One method they are actively exploring is analog in-memory computing — or analog AI — which significantly reduces the von Neumann bottleneck, and allows highly parallel computations. In this novel approach, deep neural networks (DNNs) are mapped to crossbar arrays of non-volatile memory (NVM) elements.

These elements act as artificial synapses and their conductance encode the weights of the neural network and enable computations directly in-memory. This removes the need to pass data back and forth between CPU and memory, which results in highly energy-efficient chips. We're on a path towards a hundredfold performance improvement compared to today's state-of-the-art accelerators.

>>> IBM Youtube video on analog AI (hidden gem!)
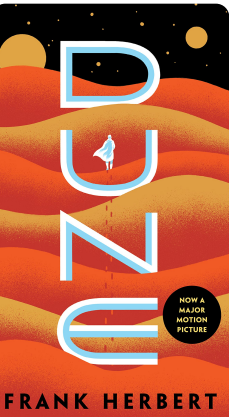
>>> Read complete article (5 minutes read)

>>> Wikipedia on Von Neumann Architecture

AIDAUG Slack is available at
>>> https://aidaug.org/slack/

NERDETTES AND NERDS KNOW THIS

# "Once men turned their thinking over to machines in the hope that this would set them free. But that only permitted other men with machines to enslave them." (Citation from Frank Herbert, 1965, Dune Saga)



Dune is a 1965 epic science fiction novel by American author Frank Herbert, originally published as two separate serials in Analog magazine. It tied with Roger Zelazny's This Immortal for the Hugo Award in 1966 and it won the inaugural Nebula Award for Best Novel. It is the first installment of the Dune saga. In 2003, it was described as the world's best-selling science fiction novel. (Source: Wikipedia about Dune)

Want some nerdy food?
>>> Reddit comments to citation

Ready for some awesome history from the 1930th?
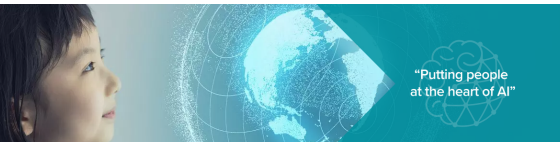>>> Analog Science Fiction Magazine

HIGHLIGHT #2
## Lost in translation
Félix do Carmo is joining the Surrey Institute



"Putting people
at the heart of AI"

Jean-Georges Perrin, AIDAUG president, brought this post on LinkedIn to my attention where Félix do Carmo in a few words explains how excited he is to be appointed as "Surrey Institute AI Fellow".

"Putting people at the heart of AI" is one of the key elements of AIDAUG.

Can't wait to see a cooperation between AIDAUG and Institute of Surrey.

**About Félix do Carmo**

Félix holds a PhD in Philosophy from the University of Porto. He has been engaged in machine learning and translation for years. His linkedin posts are full of interesting topics about translation, lost in translation, better translation, machine translation.

>>> Check out Félix on LinkedIn

**About the Surrey Institute**

The new Surrey Institute for people-centered AI will work in partnership with industry, the public sector, government and national AI organisations to deliver a step-change in AI research, training and innovation to deliver the knowledge and skills required to ensure UK leadership of an inclusive and responsible AI-driven economy.

Join them in this new chapter for Artificial Intelligence - putting people at the heart of AI.

>>> Check out Surrey Website

## New AI Program Can Detect Autism
Early, definitive detection of autism in patients could lead to timelier interventions and better outcomes.

**Stanford researchers have developed an algorithm that may help discern if someone has autism by looking at brain scans.** The novel algorithm, driven by recent advances in artificial intelligence (AI), also successfully predicts the severity of autism symptoms in individual patients. With further honing, the algorithm could lead to earlier diagnoses, more targeted therapies, and broadened understanding of autism's origins in the brain.

The algorithm pores over data gathered through functional magnetic resonance imaging (fMRI) scans. These scans capture patterns of neural activity throughout the brain. By mapping this activity over time in the brain's many regions, the algorithm generates neural activity "fingerprints." Although unique for each individual just like real fingerprints, the brain fingerprints nevertheless share similar features, allowing them to be sorted and classified.



>>> Read the full article

# Conferences

**International Conference on Artificial Intelligence and Applications, 2nd May 2022, New York**

ICAI is a prestigious event organized with the motivation to provide an excellent international platform for the academicians, researchers, engineers, industrial participants and budding students around the world to SHARE their research findings with the global experts. More Details

**Data+AI Summit, June 27-30, 2022, San Francisco**

The success of Apache Spark has accelerated the evolution of data teams to include data analytics, science, engineering, and AI. The summit brings together thousands of data teams to learn from experienced industry professionals about the convergence of data and AI. See more Details

**All Things Open 2022, October 30-November 2, 2022, Ralleigh**

ATO is back to in-person meeting and celebrates it's 10 years birthday this year. This is your conference, if you are passionate about Free and Open Source.

Call for Papers is open .... See more Details

# Resources

AIDAUG on Slack – members-only slack

Homepage of AIDAUG.org - sign up as a member, it is free.

RFE (Request for Enhancement) is the place where you let IBM know your ideas

IBM Research Lab - Inventing What's Next

IBM open source strategy – did you know that IBM is founding member of the Linux Foundation, Eclipse Foundation and Apache Foundation?

# Discounts for AIDA members

**Exclusive offerings that are only available to AIDAUG members.**

Want to read a good book? Are you thinking about renovating your computer equipment? See these exciting discounts we got for you.

## Manning Publications

… is offering 50% off everything in their store to AIDAUG members. This discount is valid for e-books, live projects, paper books…

It's a fantastic discount that they have never done before. This offer is (for now) only valid until end of February.

Use code perrin50 to get the discount at check out.

If you do not know where to start in their catalog, start here.

## BBST Bug Advocacy Summary eBook
**The must read for any Tester and QA.**

"This booklet can help you be a more effective and relevant tester. I must disclose this: I don't believe the job of a tester is to improve the product." – James Marcus Bach

Editor's Note: I reviewed the eBook. What can I say? Testing and reporting bugs is art. Getting bugs fixed is hard work. This booklet is just the entrance door.

AIDAUG members get 50% with this Coupon Link

# Closing & Credits

Thanks for reading - make sure to sign up to the AIDAUG.org website to receive discounts on various events. And as I wrote in the Foreword, you will have access to curated topics on weekly basis from now on.

There is so much going on in AI and Data Analytics, that it is sometimes hard to filter out the good stuff from the marketing buzz. I truly hope that curating the topics helps you to learn interesting details.

This Forecaster has been carefully crafted in Barcelona for AIDAUG members. Let the editor know your thoughts. You can reach out to him via email at ralf@aidaug.org

Let's get in touch on AIDAUG Slack

## Call to Action

**Please spread the voice. Share this Forcecaster with people you care for.**

Sagrada Familia, Barcelona, is wholly financed by private people and companies donating to the project.

>>> Visit Sagrada Familia Homepage