Department of Data Science
Weekly Data Science Bytes

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Explained: What Is The US Government's Project Genesis, The"Manhattan Project" For AI

- US President Donald Trump launched the Genesis Mission on November 24, 2025, through an Executive Order directing the Department of Energy (DOE) to build a unified national platform for AI-driven scientific research. The order instructs the Secretary of Energy to oversee the mission "within DOE, consistent with the provisions of this order, including, as appropriate and authorised by law, setting priorities and ensuring that all DOE resources used for elements of the Mission are integrated into a secure, unified platform." It also assigns the Assistant to the President for Science and Technology (APST) to coordinate the programme across federal departments and agencies.

- The DOE states that the initiative "will transform American science and innovation through the power of artificial intelligence (AI), strengthening the nation's technological leadership and global competitiveness.

Source: https://www.medianama.com/2025/11/223-trump-genesis-mission-ai-scientific-research/

Google's Nano Banana Pro Shocks The Internet: This New AI Can Do Homework In Your Handwriting— Users Call It 'Insane'

- Google has unveiled Nano Banana Pro, an advanced AI imaging engine built on Gemini 3—and it has quickly become one of the most talked-about tools on the internet. Known for producing shockingly realistic visuals, recreating historical events, and mimicking unique handwriting, Nano Banana Pro has pushed AI creativity and accuracy to a new level.
- Within days of launch, users began experimenting with the tool in extraordinary ways, showcasing just how powerful and versatile this new technology truly is.

Source: https://zeenews.india.com/photos/technology/google-s-nano-banana-pro-shocks-the-internet-this-new-ai-can-do-homework-in-your-handwriting-users-call-it-insane-2989534/google-nano-banana-pro-2989541

Apple Shares Massive Dataset to Help Researchers Build Nano Banana-Like AI Models

- Apple researchers have released a large-scale dataset to help others develop image editing artificial intelligence (AI) models. Dubbed Pico-Banana-400K, the dataset contains 4,00,000 real images and their AI-edited counterparts that can be used to train large language models how to handle text-based image editing requests. It is an open-source dataset available with a research-only license, meaning it cannot be used for commercial purposes. Interestingly, the Cupertino-based tech giant's new dataset release comes at a time when it is struggling with native AI models itself.

- A research paper titled "Pico-Banana-400K: A Large-Scale Dataset for Text-Guided Image Editing" was published on arXiv, an online journal. The dataset contains roughly 4,00,00 real photo edit pairs, built from OpenImages, organised into a 35-type edit taxonomy and split into single-turn edits, multi-turn sequences and preference pairs.

- These design choices matter because they shift the training signal from synthetic, narrowly curated examples to instruction-rich, real-world scenarios that resemble what users actually ask for.

Source: https://www.gadgets360.com/ai/news/apple-pico-banana-400k-dataset-gemini-nano-banana-text-prompt-image-generation-study-9537141

AI's 'hedonistic' machines earn Barto, Sutton top computer science prize

- Teaching machines in the way that animal trainers mold the behaviour of dogs or horses has been an important method for developing artificial intelligence and one that was recognised Wednesday with the top computer science award.
- Two pioneers in the field of reinforcement learning, Andrew Barto and Richard Sutton, are the winners of this year's A M Turing Award, the tech world's equivalent of the Nobel Prize.
- Research that Barto, 76, and Sutton, 67, began in the late 1970s paved the way for some of the past decade's AI breakthroughs. At the heart of their work was channeling so-called "hedonistic" machines that could continuously adapt their behaviour in response to positive signals.

Google Android VP Sameer Samat shares insightful advice to computer science students, says "coding is not…"

- According to the VP of Android, the true value of a computer science degree lies in its focus on analytical thinking, system design, and collaboration. These skills, he believes, remain crucial even as artificial intelligence continues to reshape the future of software development. While industry executives from top firms like Google and Salesforce acknowledge that AI is now generating 30 to 50 percent of code at many companies, Samat still sees value in learning foundational programming languages.
- He recalled his own education, where studying Assembly language, even as it became obsolete, provided him with a deeper understanding of how machines operate at their core. He believes that there will always be a new, more abstract programming language for building future technologies, but students should learn the core software languages.

Source: https://www.financialexpress.com/life/technology-google-android-vp-sameer-samat-shares-insightful-advice-to-computer-science-students-says-coding-is-not-3922578/

New Segment Anything Models Make it Easier to Detect Objects and Create 3D Reconstructions

- We're introducing SAM 3 and SAM 3D, the newest additions to our Segment Anything Collection, which advance AI understanding of the visual world.
- SAM 3 enables detection and tracking of objects in images and video using text and visual prompts, and SAM 3D enables reconstruction of 3D objects and people from a single image.
- You can try out SAM 3 and SAM 3D on the Segment Anything Playground, our new platform for experimenting with the capabilities of our state-of-the-art SAM models.

Source: https://about.fb.com/news/2025/11/new-sam-models-detect-objects-create-3d-reconstructions/

OpenAI takes on Meta and DeepSeek with free and customisable AI models

- OpenAI is taking on Mark Zuckerberg's Meta and Chinese rival DeepSeek by launching its own freely available artificial intelligence models.
- The ChatGPT developer has announced two "open weight" large language models, which are free to download and can be customised by developers.
- He added: "We're excited to make this model, the result of billions of dollars of research, available to the world to get AI into the hands of the most people possible."
- OpenAI said the models could underpin an AI agent that operates autonomously, and that they were "designed to be used within agentic workflows".
- Zuckerberg, similarly, has said that making models freely available and customisable will "ensure that more people around the world have access to the benefits and opportunities of AI" and that power is not concentrated in the hands of a small number of companies.
- However, Meta has said his company may need to be "careful" about taking a similar approach with highly advanced AI models.

Source:https://www.theguardian.com/technology/2025/aug/05/openai-meta-launching-free-customisable-ai-models