

Saturday Citations: Irrationality modeled; genetic basis for PTSD; Tasmanian devils still endangered

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Hello, stakeholders. (This is the nongendered term of address I've been workshopping because I see "folks" in too many social media posts.)

Researchers this week reported on an AI model that attempts to emulate human irrationality in decision-making, which has to be the best approach toward building a human-equivalent general AI, right? Like, if you told Siri "Thank you," and she replied "You, too" instead of "You're welcome," and then felt embarrassed about it. That would seem deeply human to me.

Additionally, here are some links to reporting on PTSD and its genetic underpinnings, still-endangered Tasmanian devils and a previously unknown bias in student evaluation that may terrify students named Ybarra or Zamboni.

Irrationality apprehended

Human [decision-making](#) is inherently irrational and largely unpredictable as people try to balance received information, goal-oriented behavior, predictions about the future, and unrelated internal drives such as the desire for burritos. Researchers in artificial intelligence are now trying to build AI systems that can collaborate more effectively with irrational, skull-bound humans by accounting for this irrationality.

Researchers from MIT and the University of Washington are reporting [a new technique](#) to model the behavior of an agent—either human or AI—that accounts for constraints to its problem-solving abilities.

Previous research attempts to model human decision-making have involved adding noise to the model such that the agent chooses the correct option in only a certain percentage of attempts. But human irrationality is not always irrational in the same way. The new model instead draws its inspiration from high-level chess players. The researchers noticed that higher-level players take more time to think before acting in challenging matches. This turned out to be a good proxy for human behavior and inspired their new framework.

The model runs an algorithm for a set amount of time to solve a specific problem. The model compares the algorithm's decisions to the behavior of an agent working on the same problem; then it can align the agent's decisions with those of the algorithm and determine exactly where the agent stopped planning. Deriving an inference budget from the agent's planning allows the [model](#) to predict how the agent will make choices for similar problems.

Study large

Exposure to traumatic environments or conditions, such as battlefields, activates a [stress response](#) that is likely adaptive and emerges to improve human survival. In [post-traumatic stress disorder](#), that same response becomes a detriment to quality of life, which is particularly salient in a country now coming down from 20 consecutive years of war. (Obviously, PTSD also has roots in other causes.)

Researchers at the Broad Institute of MIT and Harvard recently conducted a [genetic study](#) of 1.2 million people and identified 95 genome locations associated with developing PTSD following trauma, along with 43 genes that have a role in PTSD. The study, the largest of its kind, provides multiple new targets for investigation that could lead to prevention and treatment strategies.

Zbigniew underrated

University of Michigan researchers report that students with alphabetically lower-ranked surnames were assigned lower grades than those with alphabetically higher-ranked surnames. Haha, it gets worse: Alphabetically subordinate students also received comments that were more negative, less polite and that exhibited lower grading quality as measured by student complaints. [These results](#) derived from an analysis

of data from the online learning management system Canvas, which, by default, orders student submissions alphabetically by surname.

Over the evaluated period, from 2014 to 2022, students whose surnames begin with A, B, C, D or E received grades 0.3 points higher; students with alphabetically suburban surnames received a score 0.3 points lower, representing a 0.6-point gap. The researchers theorize that the real issue is fatigue, not alphabetical order.

"We kind of suspect that fatigue is one of the major factors that is driving this effect, because when you're working on something for a long period of time, you get tired and then you start to lose your attention and your [cognitive abilities](#) are dropping," said researcher Jiaxin Pei from the University of Michigan School of Information.

Findings disaffirmed

Some Australian friends told me one time that it was hilarious telling Americans about Tasmanian devils because we generally don't understand that the Warner Brothers cartoon character is based on an actual animal. (Contrariwise, Australians understand completely that Bugs Bunny is based on rabbits, against which Australia has built whole, continent-spanning fences.) Like the cartoon character, real Tasmanian devils are stocky, smelly and loud. They're highly endangered, threatened by a contagious form of cancer that causes the formation of large facial tumors that ultimately make it difficult for devils to feed themselves.

In 2020, researchers tracking devil facial tumor disease reported that the spread had slowed and become stable; now, however, a multi-institutional team of researchers has [questioned those claims](#) in a new genotyping study, finding errors in data on which the original team based their conclusions.

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