

ADSA Data Science Community Newsletter

Data Science Community Newsletter features journalism, research papers and tools/software for July 14, 2022.

Please let us ([Micaela Parker](#), [Catherine Cramer](#), [Brad Stenger](#), [Laura Norén](#)) know if you have something to add to next week's newsletter. We are grateful for the generous financial support from the [Academic Data Science Alliance](#).

SURVEY RESULTS — MAY NOT BE REPRESENTATIVE

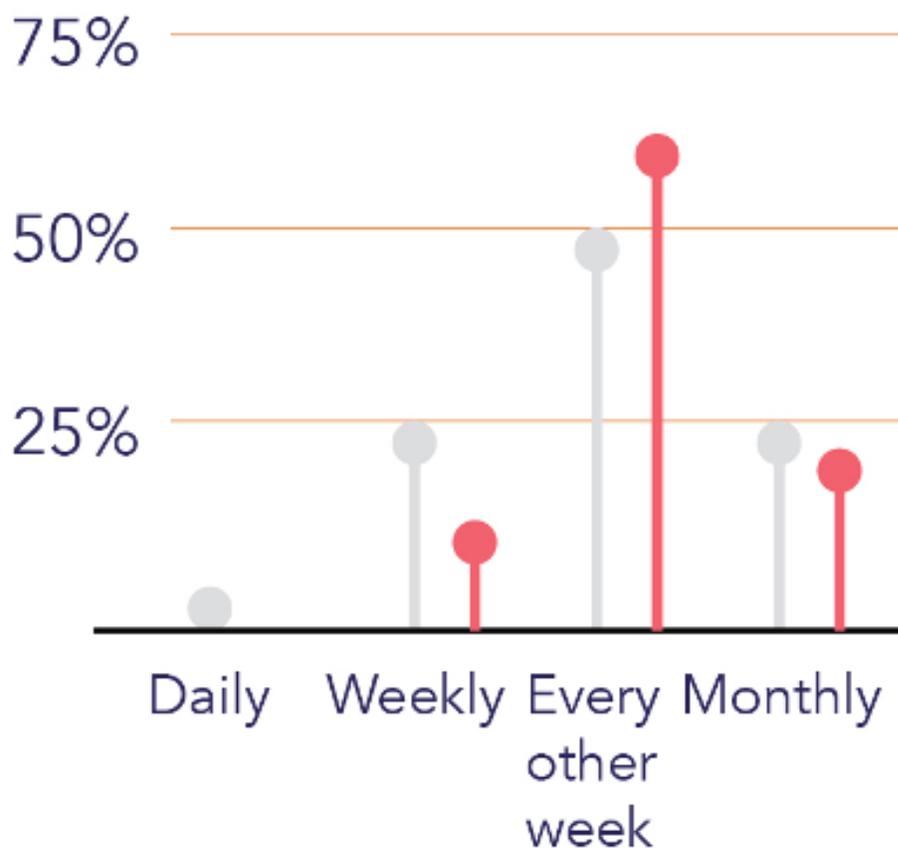
One of the biggest takeaways from our annual survey is that we have asked you to take too many polls recently. Our response rate (N=135) was less than 2% of all subscribers, down from 7.5% last year (N=637). We think the low response rate is a result of a mix of general burnout — 2+ years of pandemic and political upheaval — and DSCN survey fatigue. There have been seven pulse polls since January.

Going forward: We'll only be including short pulse polls two or three times per year, plus the annual reader survey.

FREQUENCY — EVERY OTHER WEEK WORKS

There is growing agreement that the every other week cadence works for most (66%). In the graphic, colored lollipops represent this year's data, grey lollies are last year's responses.

Desired frequency of DSCN

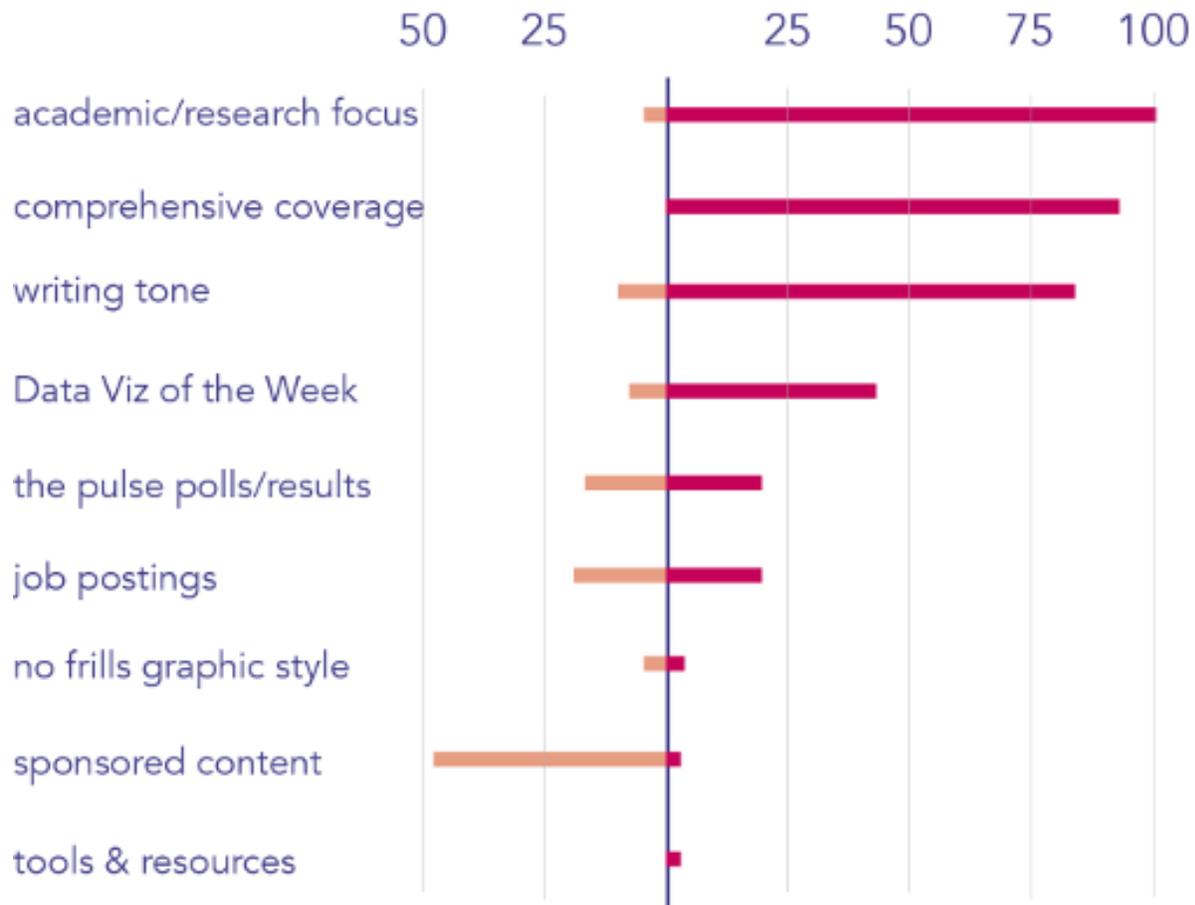


DSCN LIKES AND DISLIKES

The "academic and research focus" and "comprehensive coverage" were the most favored attributes of the Data Science Community Newsletter. Same as last year. The third item on the favorites list — "the tone of the writing" — continues to be polarizing. This is similar to last year. Write-in commentators who dislike the tone found the writing "indulgent," "negative," and riddled with "wokeness." But on the other side of this coin, we had some favorable write-ins: "I particularly appreciate how you situate data science in economic and political contexts, and provide a critical appraisal. This is rare and unique and to be encouraged!"

Going forward: We will continue to be comprehensive, academic focused, and express a point-of-view. To diversify the point of view we will invite submissions from readers.

Least Favorite & Favorite Attributes



Just like last year, we also saw polarization about job postings. Some readers like job postings well enough to use up a "favorites" vote on them, but there are others who dislike job posts enough to actively down-vote them. Last year we shrunk the number of job ads in the newsletter by moving the bulk of them to the [ADSA website](#). When people are on the job market — either looking for a new job or looking for a new colleague — it's extremely important to the field to have a lot of liquidity (lots of jobs to see, lots of candidates to consider). This is why we didn't move ALL job posts to the website — we want to play a role in matching the right people to good positions. However, we may not have gotten the job posting solution quite right last year.

Going forward: Our new template has a 2-column layout. The job ads will be sidelined, literally, so they're still available for interested parties, but will result in less scrolling fatigue for those who aren't.

READERS ARE CHANGING JOBS A LOT — SURPRISE #1

Speaking of job changes: our readers had a surprisingly big year for getting new jobs. At roughly this time last year, ten percent of you said you were looking for new positions. However, 17% of you actually got new positions and roughly 1 in 10 have concrete plans to leave. Another 23% "had serious thoughts of leaving, but haven't made firm plans *yet*." Compare that to only 20% who neither left nor considered leaving in the past 12 months and the job market is looking frothy. This is another reason we'll be keeping those job ads coming — sometimes with this much churn, new positions appear at odd times. There are [two tenure-track positions](#) in quantitative Sociology at **Syracuse University** that posted July 5th, well outside of the normal hiring cycle for sociology's hiring season.

Reported Job Changes 2021-22



Going forward: We will continue to include questions about job changes on our annual reader survey.

TRAVELING FOR WORK? — SURPRISE #2

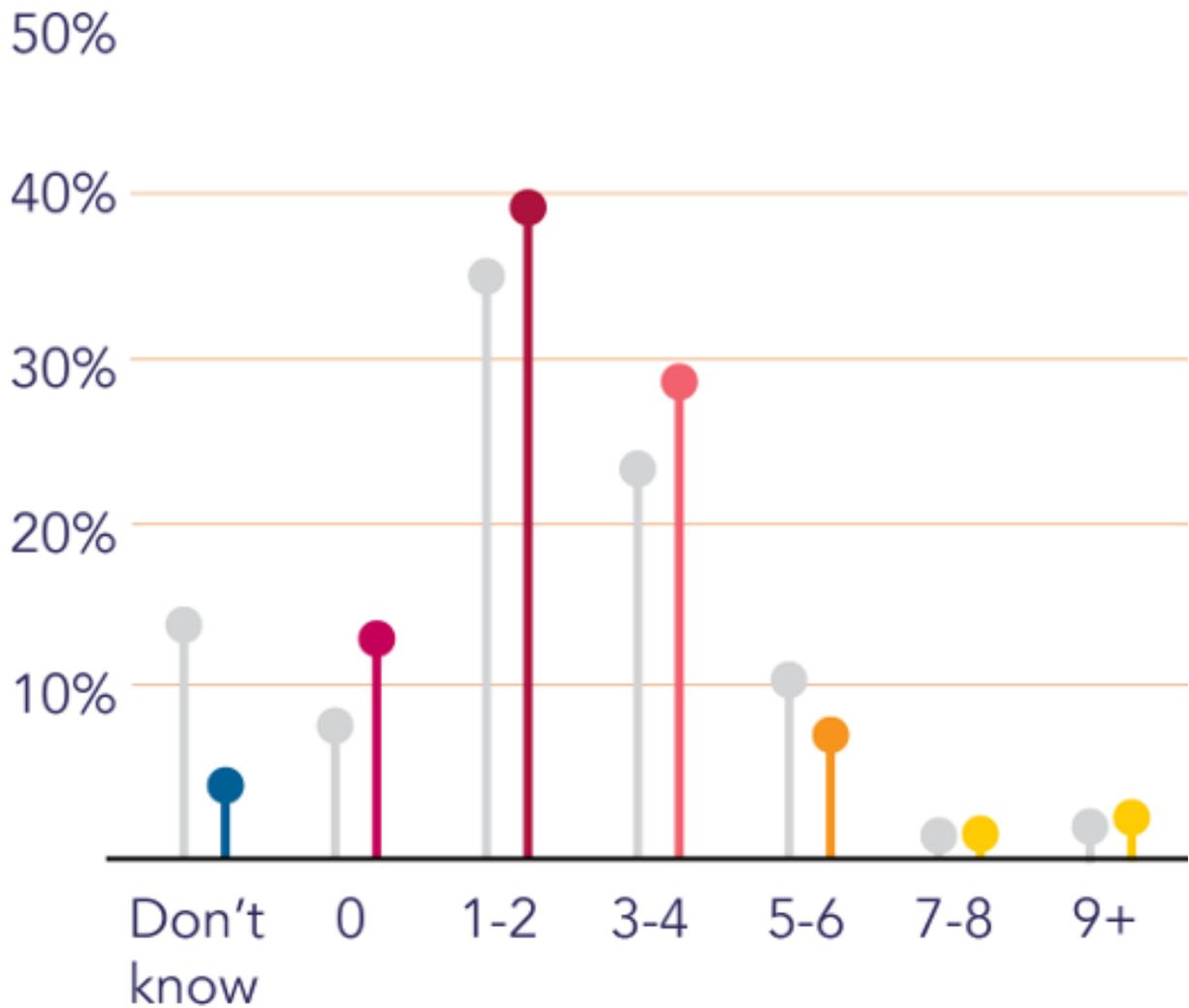
If you recall, we ran a pulse poll earlier this year asking people if they were traveling for

work again (over half said 'no'). In the annual survey, we asked a slightly different question: how many conferences and workshops are you planning to attend in the next 12 months? Since we asked the same question last year, we can see that people are more certain of their plans (expected), but are planning to attend fewer conferences than last year (unexpected). [Grey lollipops are last year's responses. Colored lollipops are this year's responses.]

Our explanation is that the people who were on the fence about traveling moved off the fence and into the "0 conferences", "1-2 conferences" or "3-4 conferences" buckets and a small number of people shifted out of the "5-6" bucket down to the "3-4" bucket. Not a huge change overall, but there is a trend of actually doing less starting to emerge. Fewer days on campus, fewer conferences, more refusals to review articles.

Going forward: ADSA is planning to have an in-person Annual Meeting in Fall 2023. Please put it on your shortlist.

Number of conferences and workshops readers plan to attend



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SOME EMPLOYMENT-RELATED NEWS

The faculty shortage of university AI instructors is in part due to unprecedented student demand, **according to** *Inside Higher Ed's Susan Dagostino*. The professors, instructors, and post-docs on the supply side face additional challenges. New faculty can face enormous challenges getting **research programs established**, especially if they **lack the prestige** of peers. Faculty, new and experienced, who can't offer the necessary prestige to postdocs are **struggling, really struggling** to fill crucial openings.

Dagostino also said corporate poaching plays a role in the faculty shortage, specifically mentioning how **Uber** (currently in the news for all sorts of **corporate double-dealing**) set up near **Carnegie Mellon** in Pittsburgh and then hired away dozens of PhDs. Corporate demand for research talent is growing, and may be on the verge of skyrocketing. Hundreds of corporate R&D operations have grown to the point of becoming **independent spin-outs** in order to properly flourish. Corporate behemoths are still keeping their most ambitious programs in-house, like with **Microsoft Research's AI4Science** where all sorts of AlphaFold-type emulators generate scientific advances (quantum chemistry, nuclear fusion, etc.) for as long as computational budgets allow.

Adding to the uncertainty, AI progress is **exceeding experts' predictions**, according to **Jack Clark**.

CLEARING OF THE BUDS

University of Washington doctoral students **Maruchi Kim, Ishan Chatterjee** and **Vivek Jayaram** invented **ClearBuds**. The buds' edge neural net cleans

the audio on users' cellphones, though the inventors are working on getting their algorithms efficient enough to run entirely on buds.

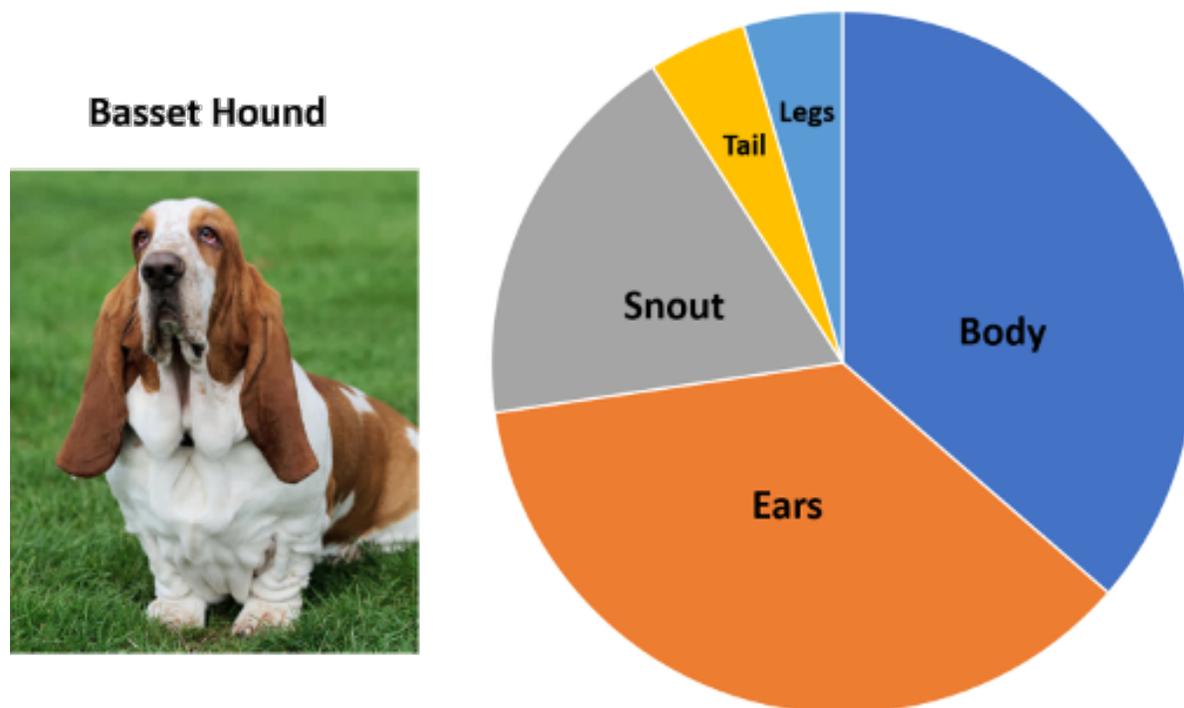
FUTURE MICROBIOMES

The enormous quantity (trillions of organisms) and diversity (thousands of different microbial species) of gastrointestinal flora make it impossible to know what's good from what's bad. A [new machine learning model of the human gut](#) from **University of Michigan** and **University of Wisconsin** predicts the complex interactions between our biology and its massive microbial communities. Human health is one obvious benefit from the work, but all sorts of complex microbial processes stand to get better, like bioremediation and bio-energy production

DATA VISUALIZATION OF THE WEEK

by John Rich from June 14, 2022

Pie Graphs of Dogs



Deadlines

Studies/Surveys

[A massive pet "biobank" will study why cats and dogs get sick](#)

"Help wanted: **Mars Petcare** is seeking 10,000 dogs and 10,000 cats for a biobank — an aggregation of biological samples, images and other data — that aims to improve the

health of house pets by detecting maladies earlier."

Contests/Award

[Introducing the #AIAuditChallenge – a \\$71K competition to design better AI audits.](#)

"@StanfordHAI & @StanfordCyber are seeking proposals for tools that enable regulators, journalists & civil society to effectively audit deployed AI systems/open source models." Deadline for entries is October 10

Tools & Resources

[Ten simple rules for improving communication among scientists](#)

PLOS Computational Biology; Carla Bautista, Narjes Alfuraiji, Anna Drangowska-Way, Karishma Gangwani, Alida de Flamingh, Philip E. Bourne from June 23, 2022

In this article, we present advice and recommendations that can help promote and improve science communication while respecting an adequate balance in the degree of commitment toward collaborative work. We have developed 10 rules shown in increasing order of commitment that are grouped into 3 key categories: (1) speak (based on active participation); (2) join (based on joining scientific groups); and (3) assess (based on the analysis and retrospective consideration of the weaknesses and strengths).

[\[2206.13446\] Pen and Paper Exercises in Machine Learning](#)

arXiv, Computer Science > Machine Learning, Michael U. Gutmann from June 27, 2022

"This is a collection of (mostly) pen-and-paper exercises in machine learning. The exercises are on the following topics: linear algebra, optimisation, directed graphical models, undirected graphical models, expressive power of graphical models, factor graphs and message passing, inference for hidden Markov models, model-based learning (including ICA and unnormalised models), sampling and Monte-Carlo integration, and variational inference."

About Us: The Data Science Community Newsletter was founded in 2015 in the Moore-Sloan Data Science Environment at NYU's Center for Data Science. We continue to be supported by the Gordon and Betty Moore Foundation and the Alfred P. Sloan Foundation through the [Academic Data Science Alliance](#). Our archive of newsletters is at <https://academicdatascience.org/resources/newsletter>. Our mailing address is 1037 NE 65th St #316; Seattle, WA 98115.