



The Role of Responsible Data Science in a New Era for Social Media

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Talk Goals

- ❑ General thoughts on data science vs. science
- ❑ Sounding the alarm on social media
- ❑ Why astronomers are well-positioned to help
- ❑ Infiniscape (our company), Kyndr (our app), and a plea for help

Who am I?

Astronomy Career

PhD 1999, Galaxy Interactions, Harvard

Postdocs: HIA/Arizona

Prof @ UC Irvine 2004-2011

Rejoined AURA Board 2022

Quantitative Finance

Renaissance Technologies 2011-2019

Data Science & Tech

Leading a Data Science Team @ Walmart 2019-2020

Started Infiniscape 2020

Released Kyndr App Dec. 16, 2022

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Science and Data Science

Positives (personal perspective only)

Both

- Quantitative AND qualitative skills together give good breadth
- Important for the technology revolution happening now
- Cool subject matter

Science

- Good, large community (ethics standards, resources)
- Mentoring is valued
- Clear paths, hierarchy
- Job “quality” (atmosphere, culture) a little more uniform

Data Science

- Decent pay/jobs
- Impact can be large
- Better work/life balance if you find the right company
- MANY paths; many places to find



Science and Data Science

Negatives (personal perspective only)

Both

- Research focus is typically very narrow (can also be a positive!!)
- Education requirements are very extensive
- “Club” mentality
- Not inclusive

Science

- Money and lifestyle; glorification of overwork
- Small world problem; entrenched “power” of leadership

Data Science

- Bad management/DS team relationship is common
- There are lots of bad companies out there
- Wealth maximization for owners is still the game



Ask me/ others

- ☐ Find out about the reality
- ☐ Consider the source for everything you hear
- ☐ Remember that you still won't be able to tell what something is like until you do it

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Sounding the alarm on social media



Social Media

Pros

- Given voice to far more people
 - Minoritized and underrepresented groups
 - People without capital (compare to newspaper)
- Added creativity and enlarged the definitions of media and entertainment
- Enabled and enhanced communities
- One place for info and community both

Cons

- Harassment, depression, predation, toxicity, bullying, self-harm and suicide, body negativity
- Amplification of rage, misery, conspiracies, terrorism, violence, racism, sexism, bias of all kinds
- Polarization, misinformation, radicalization, persecution,
- Phone addiction, wasted time
- Powerful tool for bad actors to manipulate



Optimizing for Engagement



Optimizing for engagement

Posts that engage people most are shown to others most

Why is that bad?

Negative emotions, conspiracy theories, scare tactics, false information, bullying, discrimination all appear to engage people more than positive posts and emotions

Bad actors learn how to optimize this

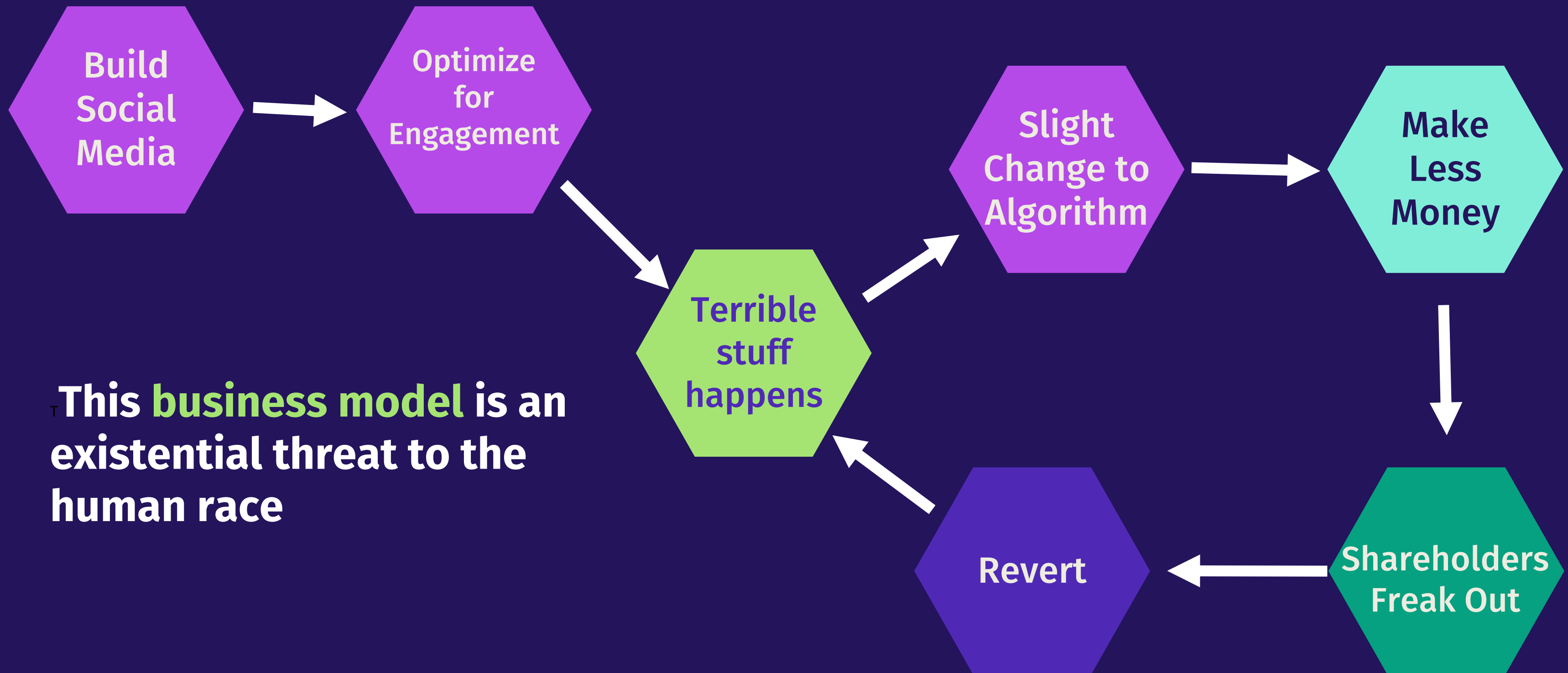
Why isn't there a quick fix?

This optimization is entrenched in the business models of the big social media companies

At their “local maximum” in profit, any fixes cause them to lose money, investment, shareholders, good will



The real cause for alarm



What's the fix?

- ❑ I don't know
 - ❑ Neither does anyone else
 - ❑ Be careful/don't listen to anyone who tells you otherwise
- ❑ Requires:
 - ❑ Better definitions of mental wellbeing that are factored into algorithms
 - ❑ Optimization for something other than just engagement
 - ❑ Testing/experimentation
 - ❑ Transparency and responsibility



What's not part of the fix?

- ❑ “Anything goes” as long as it boosts engagement
- ❑ Boosting of posts that are harmful
- ❑ Lack of monitoring and communication between users and the app
- ❑ Often, minoritized populations suffer the most



As Astronomers, you are well equipped to consider this problem

- ❑ Good with statistics and noisy data
- ❑ Used to ambiguity and lack of controlled experiments
- ❑ More emphasis on public outreach than other STEM fields
- ❑ Lots of astronomers have engaged social followings



Data science in social media

- ❑ Newsfeed algos: when to show what to whom
- ❑ Marketing evaluation and algorithms
- ❑ Friend suggestions
- ❑ Ordering of ANYTHING on the app
- ❑ Testing of features
- ❑ Analytics of user behavior on the platform
- ❑ ...



Kyndr



Released Dec. 16, 2022

iOS and Android

Basic features

Communities, newsfeed, “Grow” (video tutorials)

Still has some bugs

Feedback community

We need help with the roadmap

Chicken and egg problem with social

Need to understand direction for features

Need creators/influencers/advisors

Need data scientists soon



Kyndr

Pledge

Name and pledge are first line of defense against “bad actors”

kyndr. Pledge



Before you join our online community, we kindly ask that you agree to the following terms:

1) Do No Harm.

Hate Speech, harassment, bullying, or other offensive language will not be tolerated.

2) Avoid spreading misinformation.

Only contribute verified information from credible sources.

3) Remain authentic.

Avoid plagiarism, impersonation and spam.

4) Respect each other.

No name-calling, shaming, or discriminating.

5) Engage proactively & appropriately.

Trolling is prohibited.

If your contributions breach our pledge, you may lose access to the Infiniscape application. We appreciate you upholding this pledge in all your interactions across our platform.

If you have any questions about this pledge or the reporting process, email us at support@infiniscape-inc.com

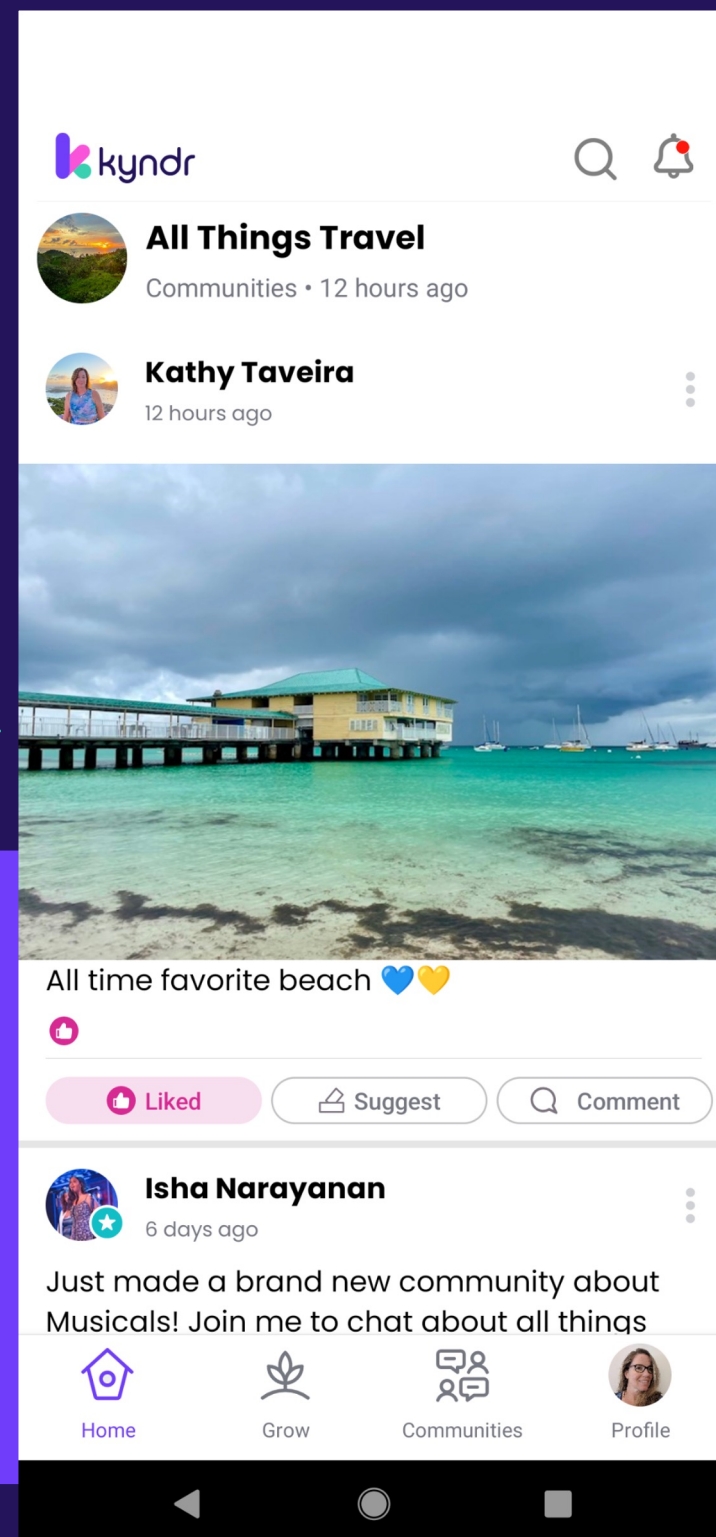
I agree



Kyndr

Newsfeed

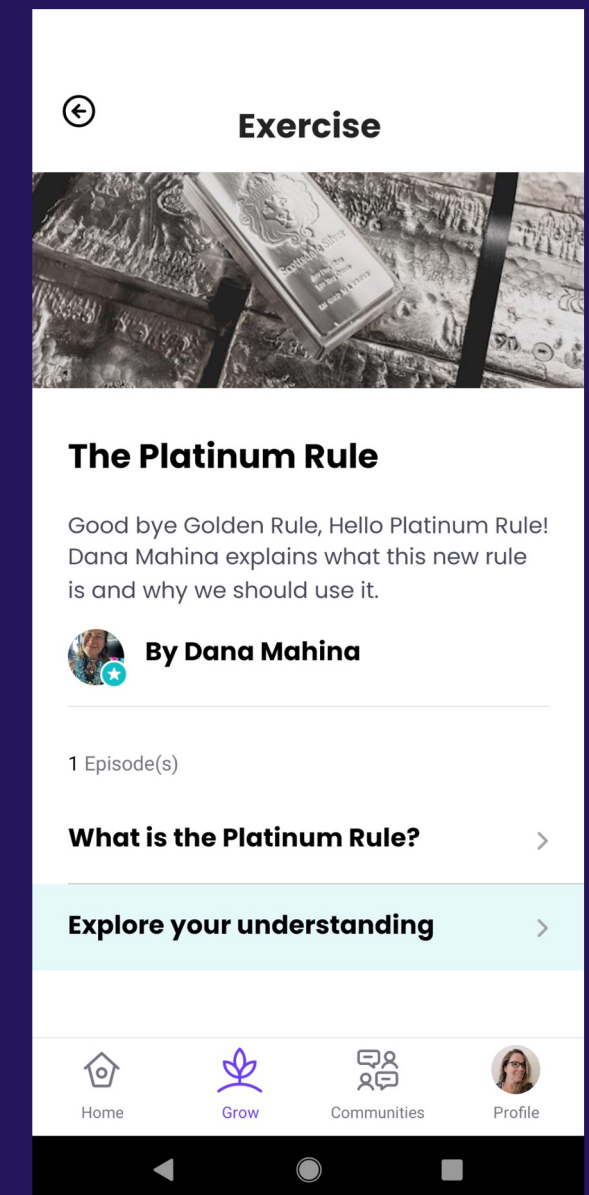
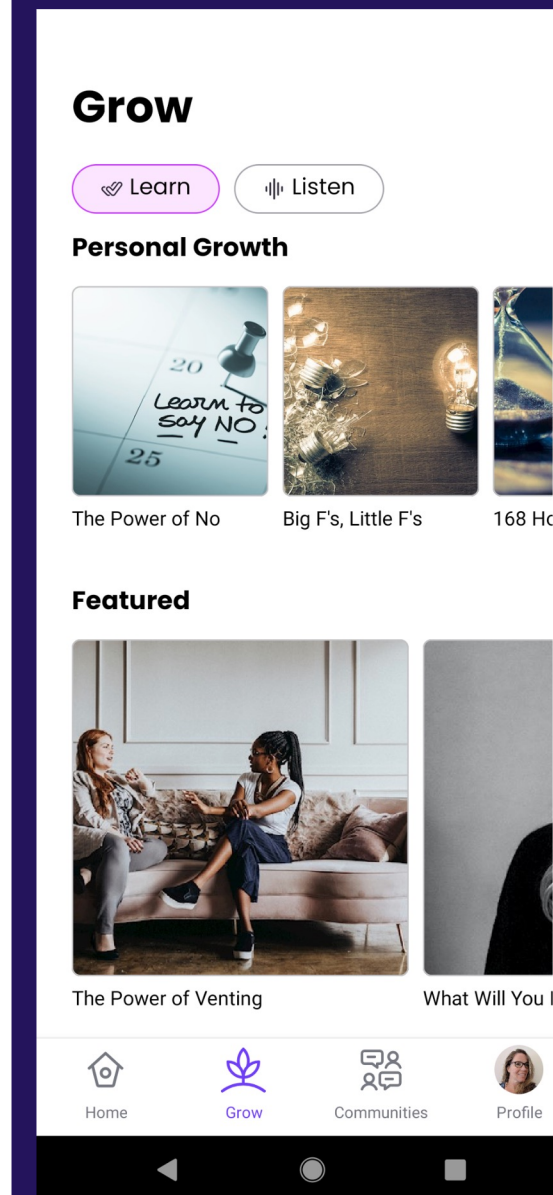
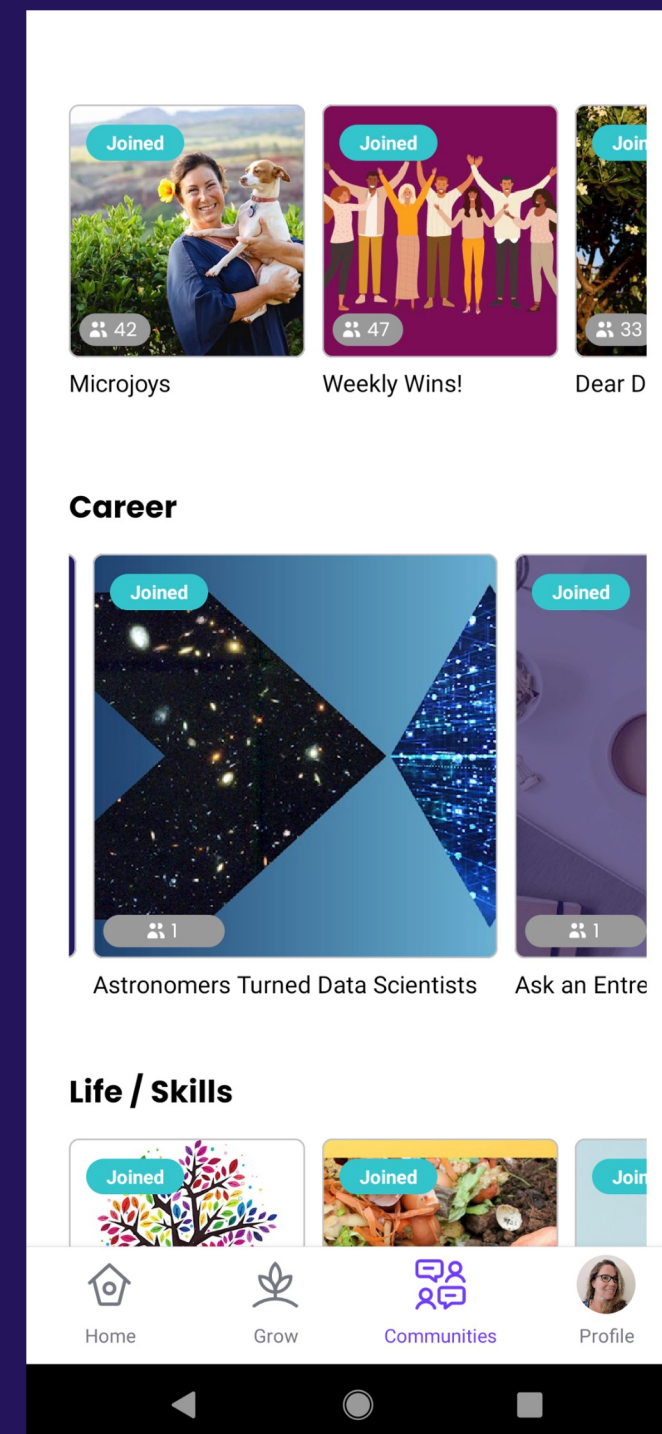
Algo super simple atm



Communities and Exercises

Communities are private and public

As of now, can only be created by “trusted creators”



Ways to Help Kyndr

Join on the App

Participate and give feedback
kyndr.com

Become a trusted creator

We do have some resources for this
We are open to many subjects and fields
Email me at betsy@infiniscape-inc.com

Advise us

Email me at betsy@infiniscape-inc.com
Or join one of the communities
Or suggest a way to help involve astro-derived
communities
Or whatever works

Join the team

Hiring data scientists soon
Email me at betsy@infiniscape-inc.com



Thank you!

Summary

If you're thinking of transitioning, ask me and others about it! Don't be afraid...

It's time to start worrying about social media and its effects

As astronomers, you are uniquely positioned to understand this problem and help

New social media efforts are very difficult and very important and require a lot of input

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