Room 4: Library

STAT 464/864 ~ Fall 2024

Discrete Time Series Analysis | *Skye P. Griffith* ~ Queen's University

Deadline: December 13th at midnight (same day as draft report).

"But Skye," you say, "WTF?!"

"Yes," I say, "hear me out: I don't want to completely destruct Room 4 because it would drastically change the weighting of the other elements of the course. That's not fair to the people who have calculated what they need to do to get a passing grade.

"Teaching this for the first time, I was a bit off in terms of how the assignments and lecture content would be spaced out." I continue, rolling my eyes at myself. "I also think you've all worked really hard this semester. You'll be be using everything you've learned in the course to create some really beautiful reports, in the coming weeks, and I trust that these reports will demonstrate your understanding. So: I'm giving you a freebie assignment."

"Is it still for marks?" You ask.

"Optionally. *If this feels out of your comfort zone, you can choose not to submit Room 4,* and instead, *the weighting of your Final Report will increase from 20% to 35%."* I say.

Our Time Series Library ♡

The library on our spaceship has all kinds of content: a textbook, dozens of slideshows, workshop manuals… but not a lot of graphic novels. Let's round out the comic book section.

Your Task: I want you to create 3 XKCD style comics: one for each unit of the course. Each comic should mention 2 concepts from the unit it's discussing, and place them in a context that alludes to their scientific meaning. Give a sentence or two of commentary. Please feel free to be as abstract as you want.[1]

> *You've likely heard of the web comic* XKCD, *a favourite among math profs and other nerds. There's no overarching story, it's more like a newspaper-comic.*
>
> *Check out the official website* ***here!*** [2]

[1] I literally taught you what stationarity was using optical illusions of fish turning into birds. You can take some creative liberties, here.

[2] There are some good XKCD phone apps too... good for some airplane-mode friendly mindless scrolling

Example I came up with this morning at 3am

Room 1		Commentary
Topic 1	ACVF	The ACVF describes pairwise distributional *relationships* between observations. The plot in the comic indicates no correlation, because the sample ACVF doesn't enter the rejection region.
Topic 2	White Noise	White noise obs. are uncorrelated, but also independently and *identically* distributed. Probabilistically, they're like clones!