# Intro

Programming good research code good

Patrick Mineault

# What is this lecture about?

- Most people who end up doing research that's heavy on programming are not formally trained on CS or software engineering
- You're probably in this bucket
- Bad consequences:
  - You don't know what you're doing
  - Imposter syndrome
  - Low productivity
  - Bugs
  - You hate your code and you don't want to work on it
  - You graduate late
  - You have great sadness in your heart
- It doesn't have to be all bad!

# My weird perspective

- Patrick Mineault, PhD
- As undergrad, did programming on the side and ran an open source project called amfphp
- PhD on receptive fields in early visual cortex at the MNI with Chris Pack
- Postdoc at UCLA with Dario Ringach
- (wildly underqualified) software engineer at Google
- Research scientist at Facebook on brain-computer interfaces
- CTO of NMA, where we delivered a 3-week summer course in comp neuro to 1700 students
- Occasionally taught CS
- Independent researcher and technologist

# Regrets, I've had a few

- Wasted months working with bad code of my own making
- Didn't study CS until very late
- Wasn't until I joined Google that I became gooder at code
- I stand on the shoulders of giants who showed me the error of my ways
- Not a great coder, but definitely better than I was in grad school
- I think you might be curious

# Why is writing research code hard

*example image about here*

- 