Kernels and Knitr

20140916

Epistemology Quote

"How does it happen that a properly endowed natural scientist comes to concern himself with epistemology? Is there no more valuable work in his specialty? I hear many of my colleagues saying, and I sense it from many more, that they feel this way.

I cannot share this sentiment. When I think about the ablest students whom I have encountered in my teaching, that is, those who distinguish themselves by their independence of judgment and not merely their quick-wittedness, I can affirm that they had a vigorous interest in epistemology. They happily began discussions about the goals and methods of science, and they showed unequivocally, through their tenacity in defending their views, that the subject seemed important to them. Indeed, one should not be surprised at this."

(Einstein 1916, see http://plato.stanford.edu/entries/einstein-philscience/)

Today

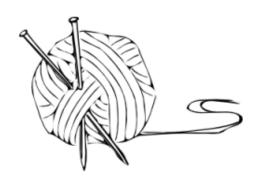- Questions about the lab or homework?

- Knitr

- Kernel estimators of PDFs

Knitr

Allows embedding of R (and python and bash) commands in a document (latex, html, markdown).

It "knits" your code and writeup so it is easy to change your document when your data changes.

Used for reproducible research!

In RStudio:

- Global options -> Sweave -> Weave Rnw files using "knitr"
- File -> New File -> R sweave
- Weave away
- Click "Compile pdf" to run your R code and generate a document.
- If you're not using RStudio, use the R commands knit() and knit2pdf()

Exercise

Open `kernel_lab.Rnw` and follow the instructions. You'll need the two R library files, too.