PHILOSOPHY

FIT A FUNCTION

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Here is the link to a great blog post about Derek Lowe

The nice thing about Derek's talk was that it was really delivered from the other side of the fence, that of an accomplished and practicing medicinal chemist. Thus he wisely did not dwell too much on all the details that can go wrong in modeling: since the audience mainly consisted of modelers presumably they knew these already (No, we still can't model water well. Stop annoying us!). Instead he offered a more impressionistic and general perspective informed by experience.
Why von Neumann's elephants? Derek was referring to a great piece by Freeman Dyson (who I have had the privilege of having lunch with a few times) published in Nature a few years back in which Dyson reminisced about a meeting with Enrico Fermi in Chicago. Dyson had taken the Greyhound bus from Cornell to tell Fermi about his latest results concerning meson-proton scattering. Fermi took one look at Dyson's graph and basically demolished the thinking that had permeated Dyson and his students' research for several years.

Yes, you can fit an elephant by just four parameters.

I think the elephant goes back to the 2010 paper by Mayer and the Dyson/Fermi meeting to a 2004 paper by Dyson.

I can not not resist to add here another reference here after reading all the COVID-19 modelling: the Hand 2006 paper which says

A great many tools have been developed for supervised classification, ranging from early methods such as linear discriminant analysis through to modern developments such as neural networks and support vector machines. A large number of comparative studies have been conducted in attempts to establish the relative superiority of these methods. This paper argues that these comparisons often fail to take into account important aspects of real problems, so that the apparent superiority of more sophisticated methods may be something of an illusion.