Volcano plots & ggplot2

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https://github.com/erikaduan/R-tips

About this talk

- Something I wrote up for R-Ladies Melbourne in 2018.
- All credit goes to soon-to-be Dr Chuanxin Liu.

- **Fun fact:** R-Ladies and Responsible AI meetups → I became a data scientist!

It’s a volcano plot if… 🌋📈

- You are comparing between **2 different groups of samples**.
- You are interested in visualising **how much** group B **differs** with respect to group A.

😀😀😀😀😀

Group A: healthy cells

😷😷😷😷😷

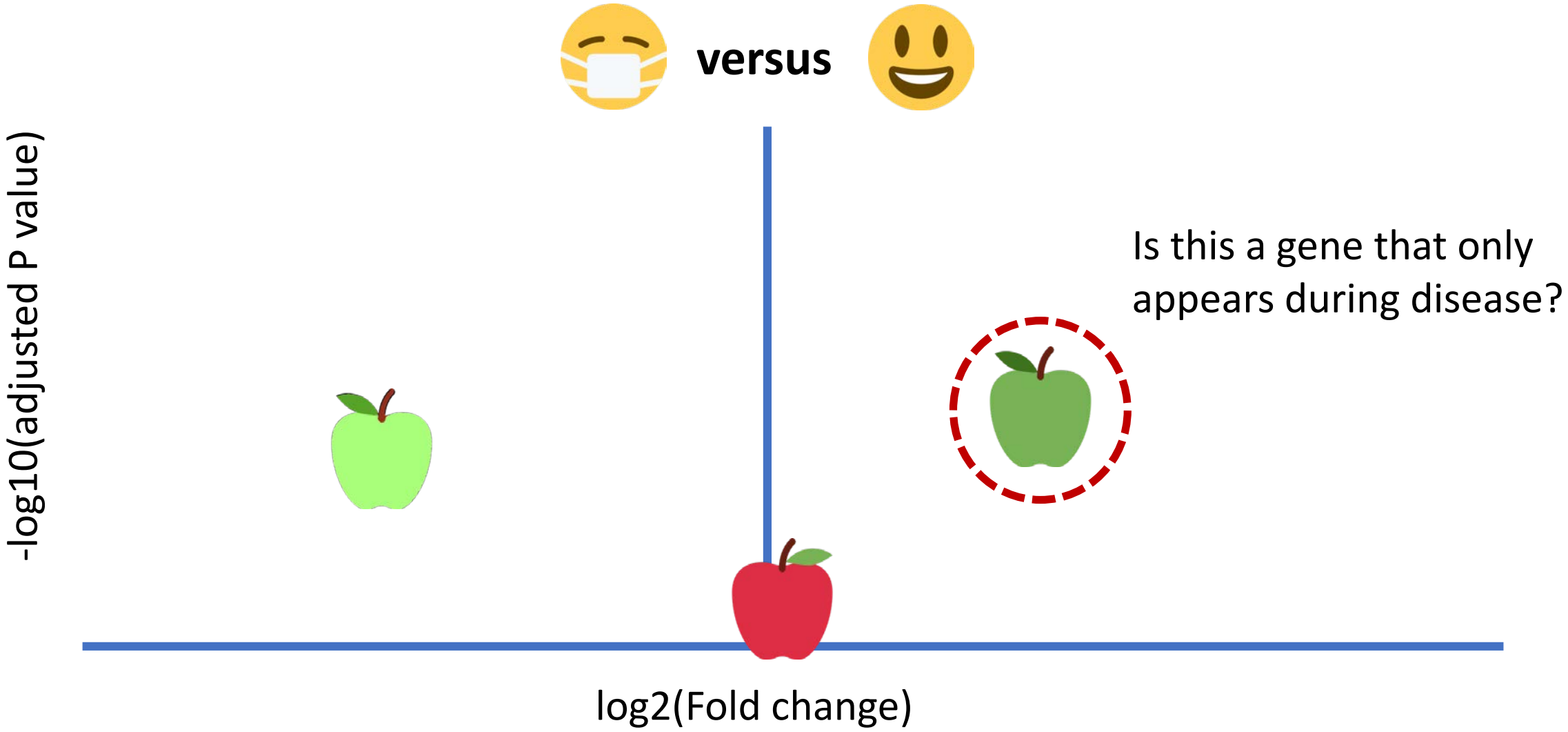
Group B: ‘diseased’ cells

It’s a volcano plot if…

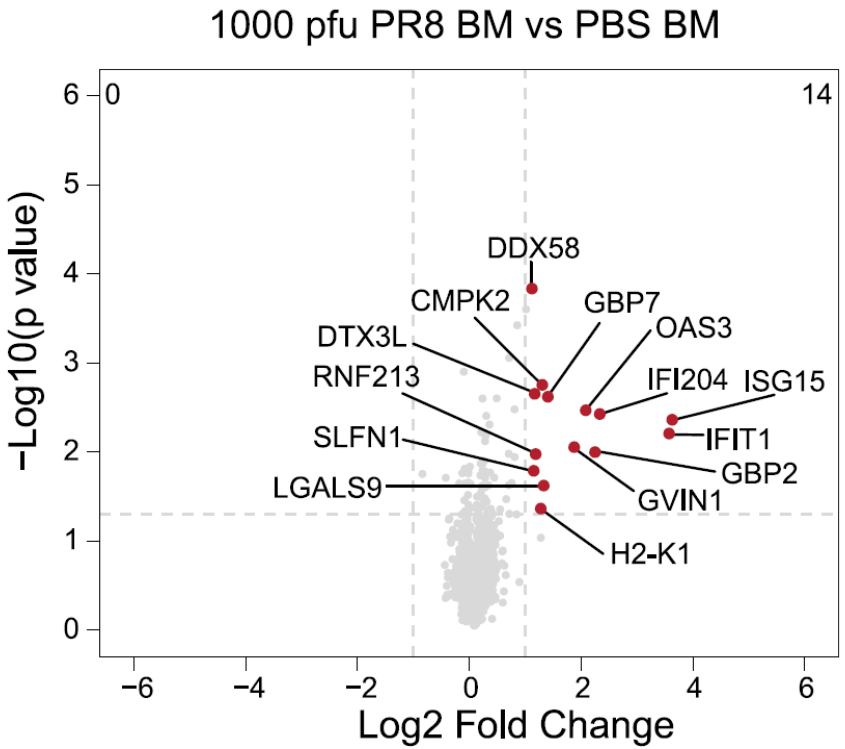
- You also have lots of data points collected for both samples.
- Equivalence (in unit) between these data points.

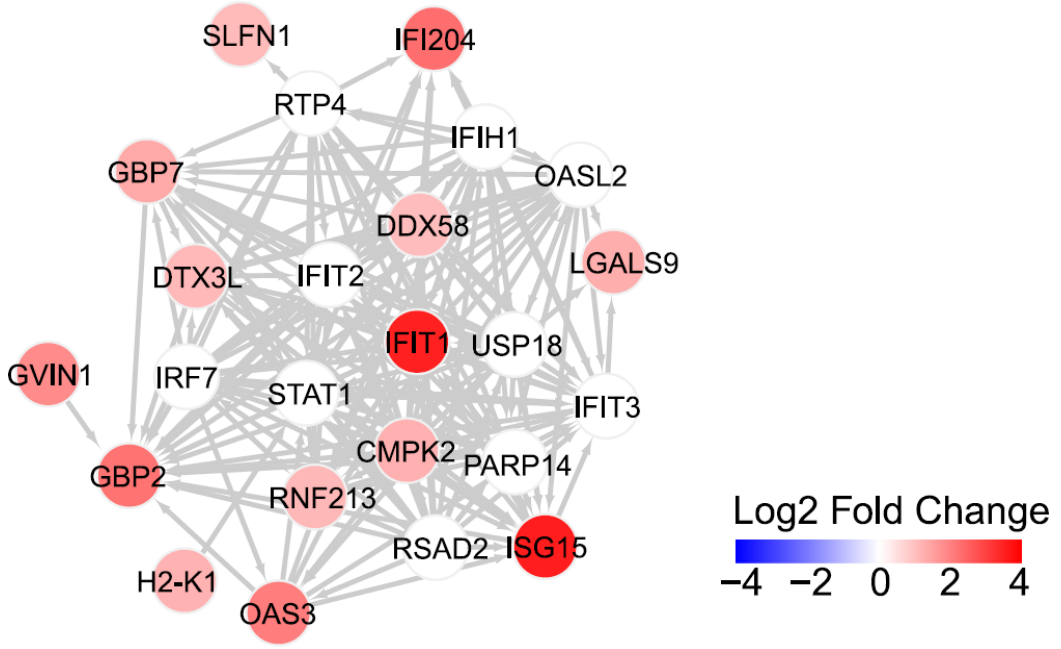
	Group A: healthy cells					Group B: ‘diseased’ cells				
	😀	😀	😀	😀	😀	😷	😷	😷	😷	😷
Gene A	4	3	9	7	2	3	3	5	6	2
Gene B	3	6	7	3	4	25	34	21	40	38
Gene C	11	13	7	8	17	0	2	5	1	0

It’s a volcano plot if…



Volcano plot: just another way to communicate complex information





Liu et al, 2019, Journal of Immunology 203 (4)

Let’s use this as an excuse to play around with ggplot2 📦 !