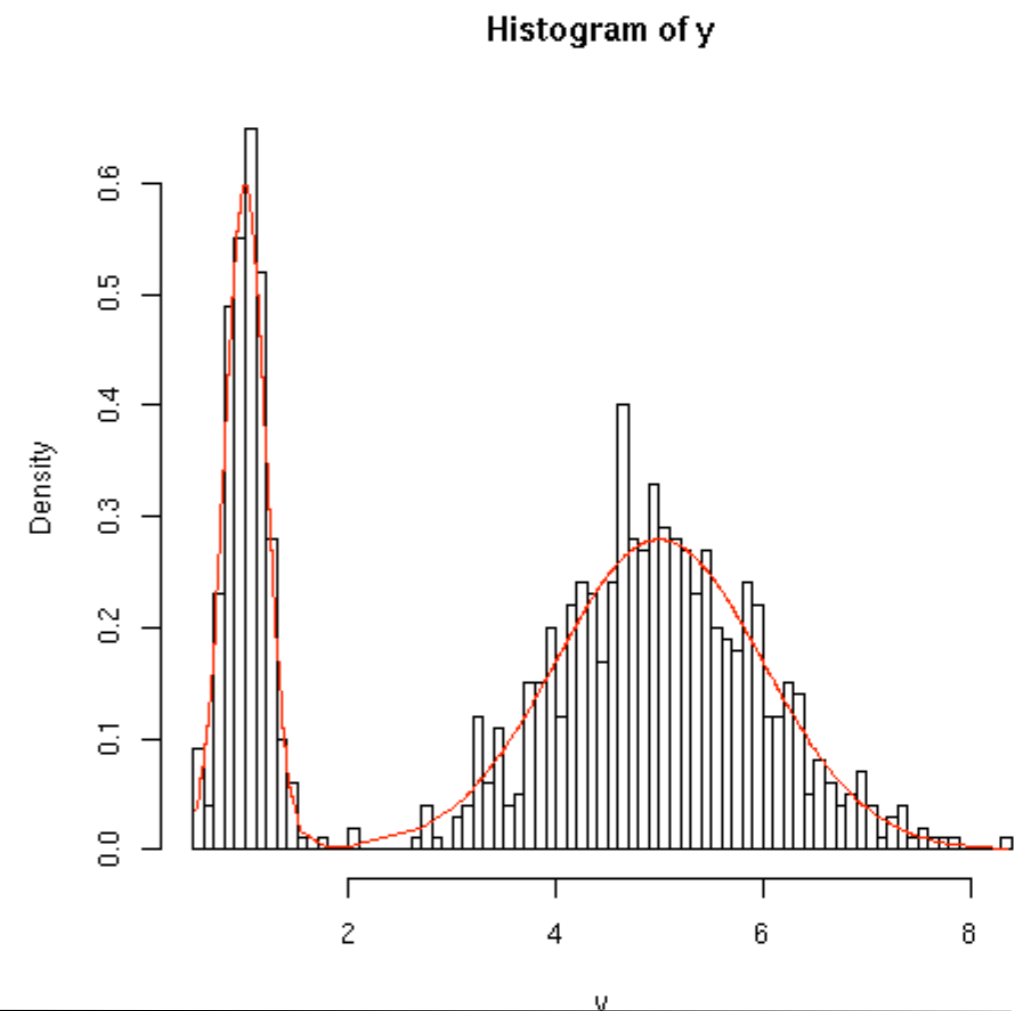


“Automatic” gating for Flow Cytometry Data

Raphael Gottardo
University of British Columbia
Department of Statistics
raph@stat.ubc.ca

Gating: Manual vs. Automatic

- Is manual gating feasible for high-throughput experiments?
- Automatic gating via (model based) clustering
- Gaussian mixture models



Why mixture models?

- “Complete” statistical framework
Computationally tractable
Estimate the number of clusters
- Summarize uncertainty
- Problems?
What if not Gaussian → Transformation
Outliers → Robust version
High dimension → Dimension Reduction
Black box → Uncertainty (Quality)
- Hope: No more gating