

Cool things from JSM 2017

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Inference without assumptions

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- Conformal prediction by Vovk, Gammerman and Shafer (2006)

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 - Construct set S , such that

$$\Pr[Y^* \in S] \geq 1 - \alpha$$

for a new $Y^* \sim F$.

Inference without assumptions

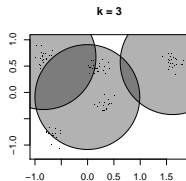
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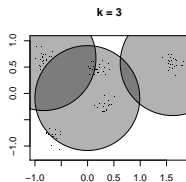
- Application to k -means..

Using conformal prediction to choose k



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Using conformal prediction to choose k

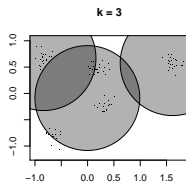


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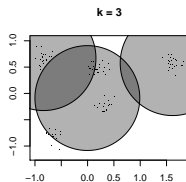
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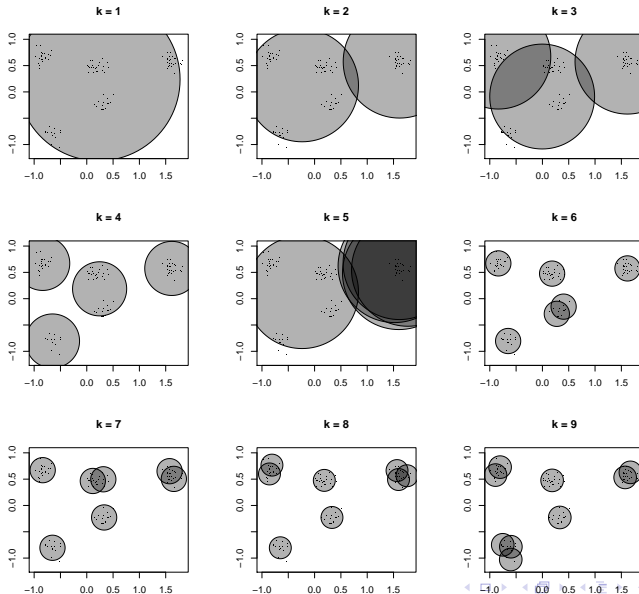
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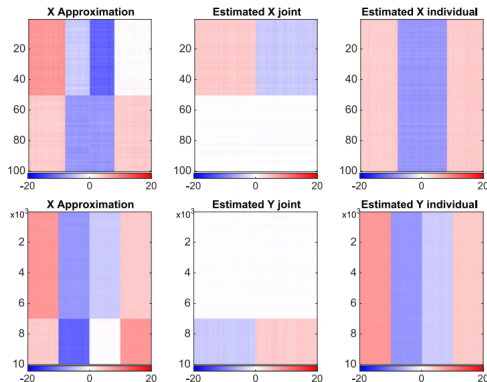
Does it work? I tried it out myself..

Simple simulation with $k = 5$ and $\alpha = 0.05$



JIVE-Joint and individual variation explained

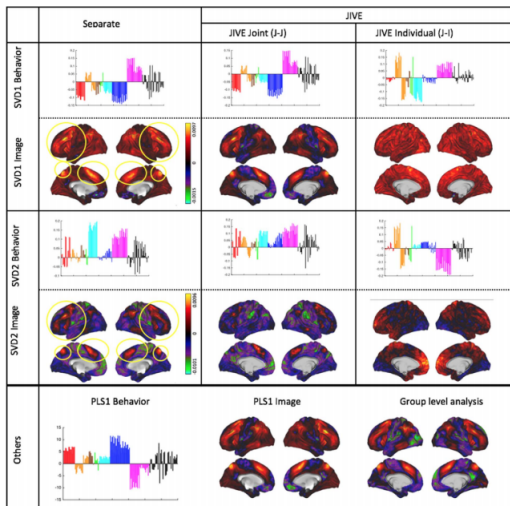
- Method for integrating two datasets, and decomposing into joint and individual variance components



- Angled-Based JIVE described in Feng, Hannig, Jiang and Marron (2017)

JIVE-Joint and individual variation explained

- Benjamin Risk described his joint work with Yu, Zhang and Marron applied to HCP data, comparing JIVE to PLS (partial least squares)



Functional connectome fingerprinting: identifying individuals using patterns of brain connectivity

Emily S Finn^{1,7}, Xilin Shen^{2,7}, Dustin Scheinost², Monica D Rosenberg³, Jessica Huang², Marvin M Chun^{1,3,4}, Xenophon Papademetris^{2,5} & R Todd Constable^{1,2,6}

Factors Affecting Characterization and Localization of Interindividual Differences in Functional Connectivity Using MRI

Raag D. Airan,¹ Joshua T. Vogelstein,^{2,3} Jay J. Pillai,¹ Brian Caffo,⁴
James J. Pekar,^{1,5} and Haris I. Sair^{1,*}

Brian Caffo is thinking about “fingerprinting” from a statistical point of view