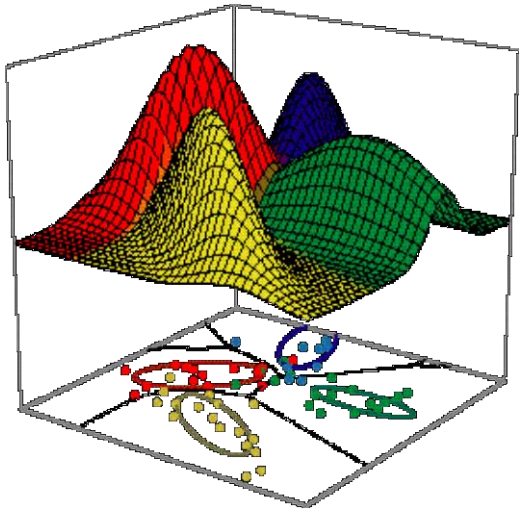
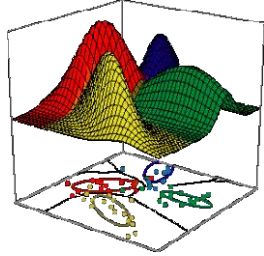
SYSC5405 / BIOM 5405



Term Project Proposals

26 Nov 2019

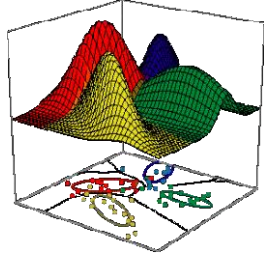
Pitch Presentations



- **The proposal** detailing the pattern classification approach that you plan to use, including a source for an implementation of your chosen method. This will be a 5 minute presentation with ~6 slides.
- Goals:
  1. Make sure everyone has a group, has a method, and has an implementation by week 1
  2. Give everyone a teaser of what your competitors are thinking
  3. Generate some excitement!!

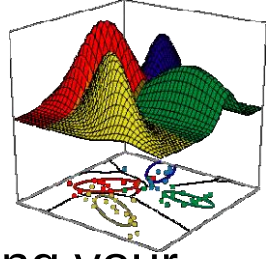
6 slides, 5 minutes each

Order of presentations



#	Approach	Members	
1	**Support vector machines**	Pedro C, Daniel K, Eric M	8:38
2	**Decision Forests**	Andi H, Chanho K, David L	8:43
3	**Linear discriminants**	Kelly B, Pascale J, Shane S	8:48
4	**Convolutional neural networks**	Vishwaa B, Niyati D, Reeham H	8:53
5	**K-nearest-neighbour**	Prathmesh R, Puneet S, Abhinav Y	8:58
6	**Recurrent neural networks**	Joel MK, Maryam TE, Nidheesh V	9:03
7	**Decision trees**	Ben E, Mohamed H, Jason M, Ian S	9:08
8	**Bayesian belief networks**	Anchen L, Zuwen S, Hongzhi Z	9:13
9	**Radial basis function networks**	Anshumaan AA, Ramanjeet K, Navleen KS, Arjun K	9:18
10	**Logistic regression**	Mingfang H, Vishnu R, Yiying Z	9:23
11	**Feed-forward neural networks**	Tarim I, Hamza S, Nizamuddin MS	9:28
12	**K-means clustering**	Kristen B, Victor C, Matthew M	9:33
13	**Probabilistic neural networks**	Ash N, Mohamed Z, ???	9:38
14	**Gradient-boosted decision trees**	Bala PK, Swetha MN, Sreeram S	9:43

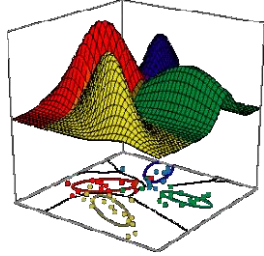
Next: Project Pitch – 3 Dec



- **The pitch** consisting of a presentation with ~6 slides describing your approach, your predicted accuracy, and how you computed it. Each group will be given **5** minutes to pitch their method as being the best approach. At the conclusion of this class, all groups will be provided with the blind test data set. Slides should cover:
  a) Quickly review method/implementation
  b) Describe your experiment design
  c) Describe any pre-processing of the data
  d) Describe training/testing protocol
  e) Describe your meta learning strategy (**mandatory**)
  f) Provide your estimated Re@Pr50 (including the standard deviation of your estimate) and describe your methodology for estimating your "true" Re@Pr50

  (i.e. the Re@Pr50 you should expect when applied to new test data).

Reminder: Project Evaluation



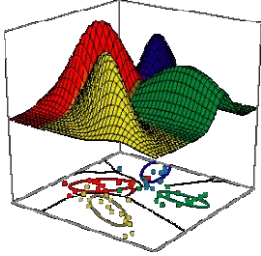
- You will be evaluated on:
  - 1) Prediction accuracy over test data set
    - as measured by maximum achievable recall at a precision of at least 50% (Re@Pr50)

$$Score_{Accuracy} = Re@Pr50$$

  - 2) How close your predicted Re@Pr50 is to your actual test Re@Pr50
    - Provide a mean and standard deviation σ

$$Score_{precision} = p(x = Score_{actual}), \text{if } p(x) \sim N\left(Score_{pred}, \sigma^2\right)$$

Schedule



√ **Tuesday 19 Nov:** Competition announced.

√ **Tuesday 26 Nov:** Project proposal presentations

→ **Tuesday 3 Dec:** Pitch presentations given.

3pm Wednesday 4 Dec: Final classification of blind data submitted on CULearn.

Thursday 5 Dec: Results announced. Winners glorified. Prizes distributed.

Monday 16 Dec: Final reports submitted **electronically** via CULearn.