

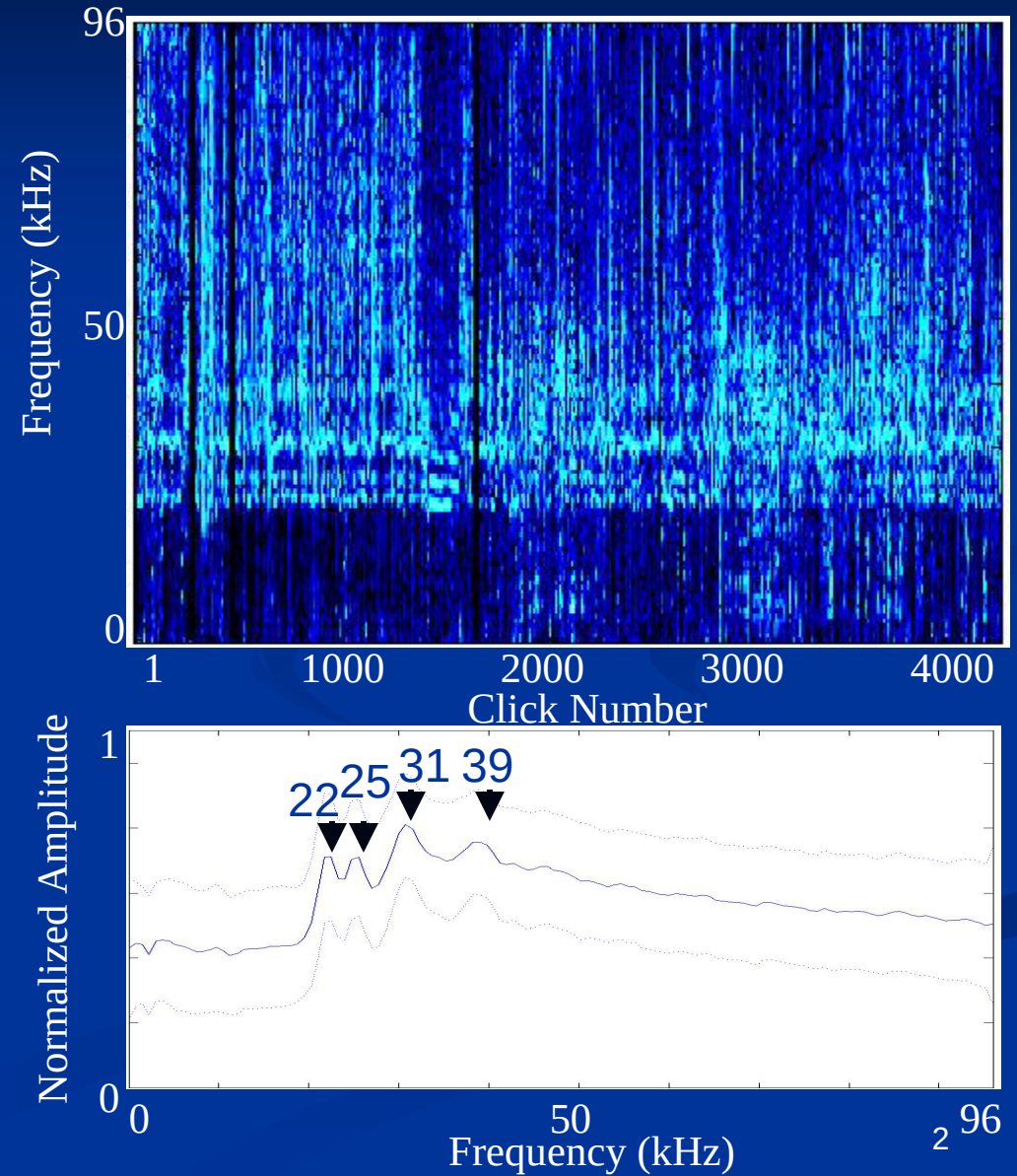
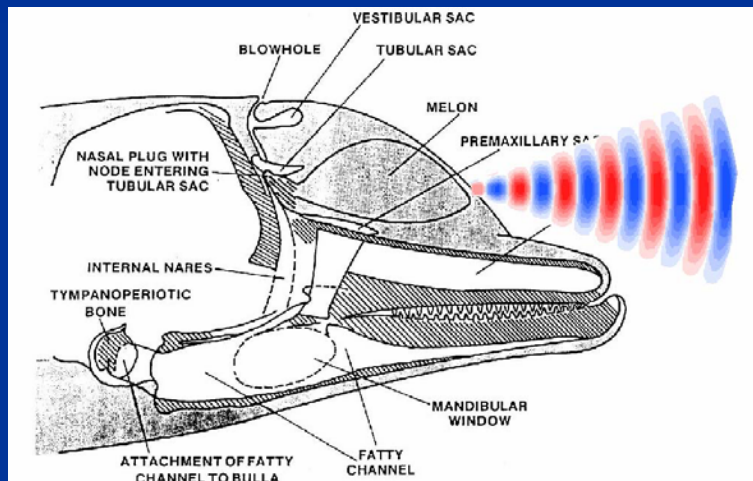
Species identification of free ranging odontocetes using echolocation clicks



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Why focus on clicks?



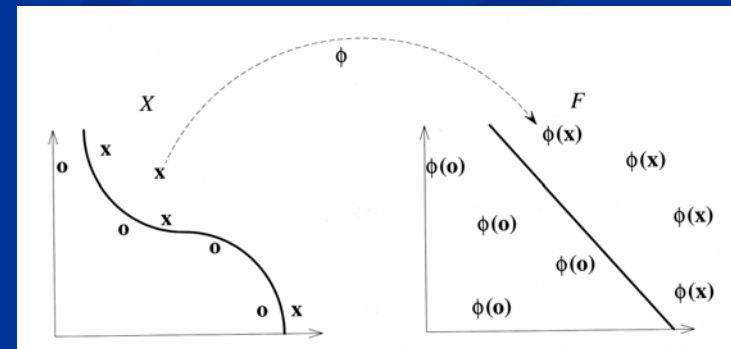
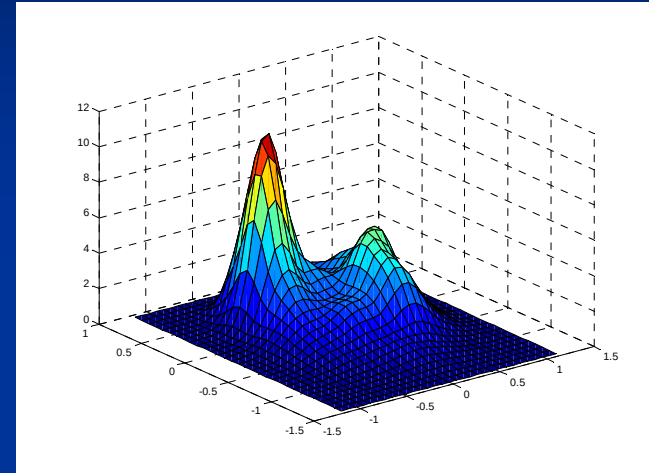
Detection and Localization of Marine Mammals Using Passive Acoustics (DCMMPA 2007)

- Common data set
- Detectors for three species



Pattern recognition

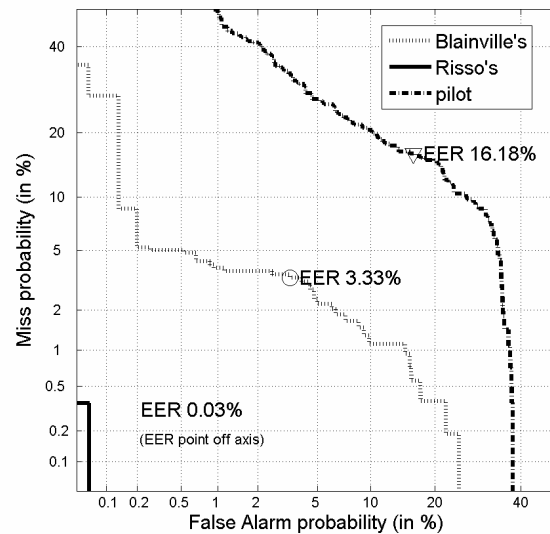
- Feature extraction
 - Locate click (Teager energy operator)
 - Include 1200 μ s past start of click
 - Extract cepstra & group
- Modeling
 - Gaussian mixture models
 - Support vector machines



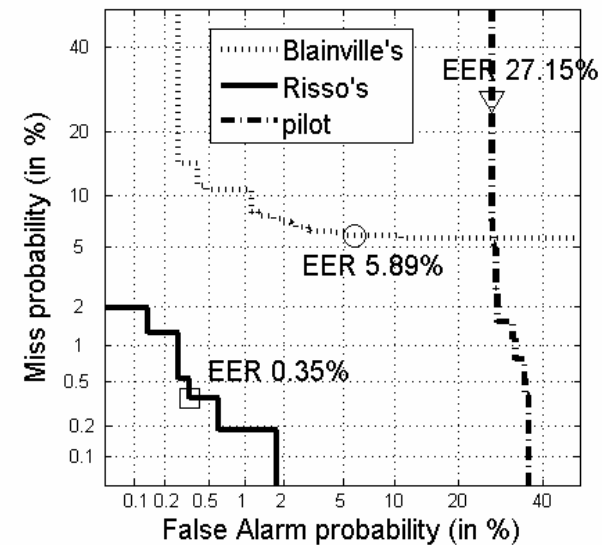
[Cristianini and Taylor 2000, p. 28]

Evaluation set results

GMM



SVM



9 test files covering mixed species and two impostor species



Acknowledgements

- US Navy CNO N45 – Frank Stone & Ernie Young
- HPWREN/NSF grant 0426879
- Naval Postgraduate School – Curt Collins
- ONR – Bob Gisiner and Ellen Livingston
- NUWC M3R Program

Questions?

