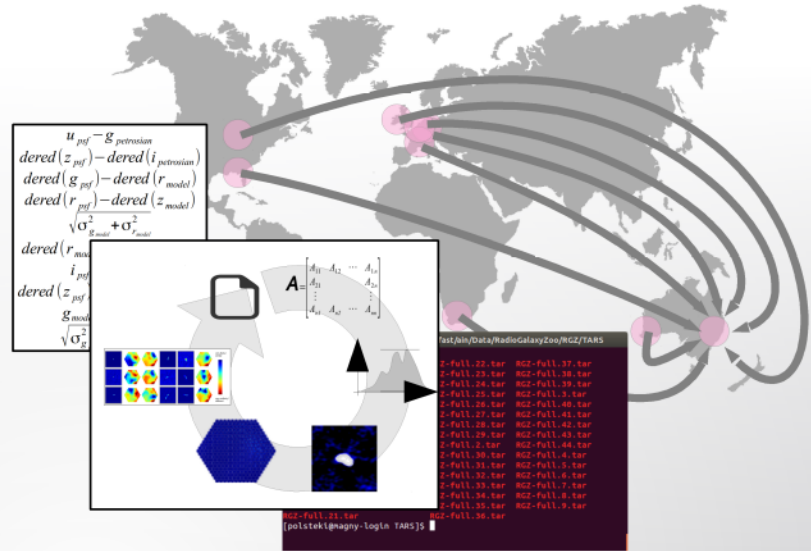


KDIG / ongoing work



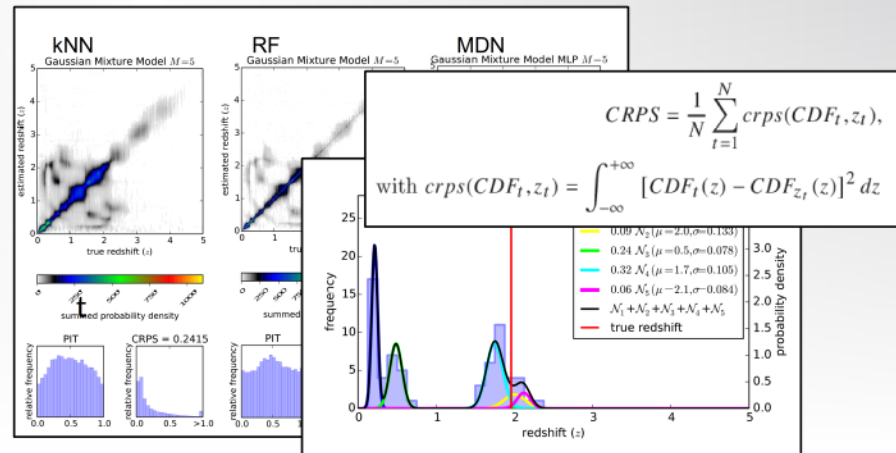
Bringing code to the data

- how to find resources (B. Major)
- how to package code
- Sparc (A. Schaaff)



Probabilistic queries

- “SELECT * FROM data
WHERE (x > 4.8 | p > 80%)”
- DM?
- ADQL?



KDIG / ongoing work

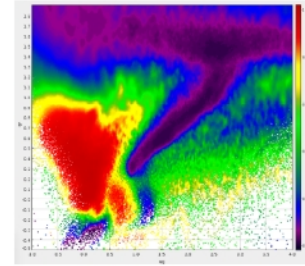


Server based classification

- provide simple classification at the data service
- rest HTTP API / DALI compatible (F.X. Pineau)

□ KDC example

Probability of being a quasar (left) and repartition of sources classes as quasar/star (right).



$$p(qso|\vec{x}) = \frac{p(qso)p(\vec{x}|qso)}{p(qso)p(\vec{x}|qso) + p(star)p(\vec{x}|star)}$$

Cyan: p
Pink: p

□ The service REST HTTP API

```
# Perform a k-NN classification
# - output: csv
GET ${url}/${dir}/knn
GET ${url}/${dir}/knn/learningsample
# - possible outputs: txt/xml/json
GET ${url}/${dir}/knn/confusionmatrix

# Perform a Kernel Density Classification
GET ${url}/${dir}/kdc/${algo}
GET ${url}/${dir}/kdc/${algo}/learningsample
GET ${url}/${dir}/kdc/${algo}/confusionmatrix
# Params: priors, likelihoods thresholds, ...

# 4 kernel smoothing algorithms
${algo} = knn|fixedbandwidth|balloon|samplepoint
```

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KDIG Related Sessions



KDIG Session

Thursday May 31 - Spirit AB - 14:00 - 15:30

Speaker	Title	Duration	Materials
Kai Polsterer	Introduction	4'	
Matthew Graham	ML aspects of ZTF	20' + 2'	
Kai Polsterer	ML based, explorative web service	20' + 2'	
Giuliano Taffoni	HPDA (deep learning, Data analytics etc.)	20' + 2'	
All	Open Discussion	20'	

GWS II (Thursday, May 31 11:00-12:30, Spirit AB) Topic: Science Platforms

Speaker	Title	Time	Material
Brian Major	Introduction	5'	
André Schaaff	Feedback about last experiments: HiPS and AWS, X-Match & Spark	12' + 2'	pdf
Tom Donaldson	JupyterHub on Amazon Web Services	12' + 2'	pdf
Kenny Lo	Approach for Implementing LSST (DAX) Web Services	12' + 2'	pdf
Gerard Lemson	The SciServer Science Platform	12' + 2'	pdf
Brian Major	Offering containers as a service: an ALMA use case and prototype	12' + 2'	pdf
Andy Lawrence	Notebooks for the VO - hope or hype?	12' + 2'	pdf
All	Science Platform discussion	time permitting	