

# Competition: Can I make a wish? Predicting the presence of meteors in images

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The logo for LaSID, featuring the text "LaSID" in a bold, sans-serif font. The "L" and "S" are black, while the "a" and "i" are white and set against a black background. The "D" is black.

`renatoms@dt.fee.unicamp.br`, `talmeida@ufscar.br`,  
`jlochter@acm.org`



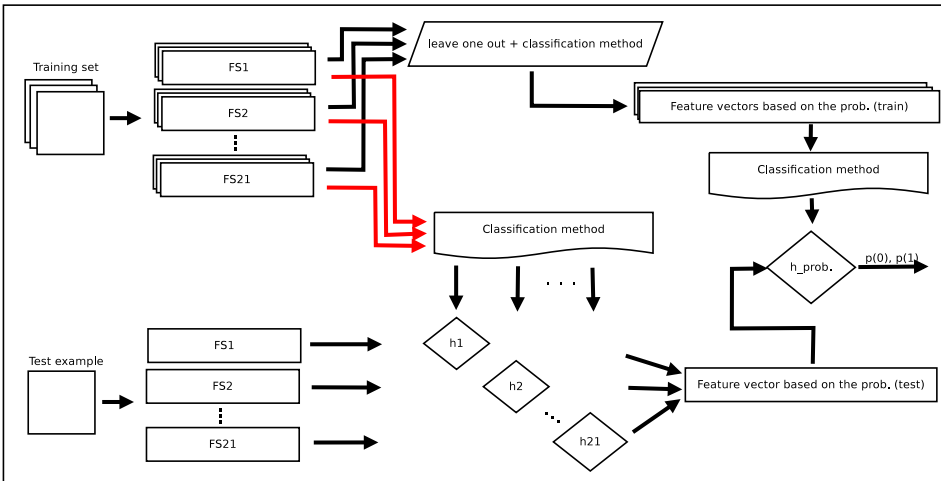
# Introduction

- # training examples:
  - ▶ class 0 (non-meteor): 54
  - ▶ class 1 (meteor): 26
- Number of features: 3,451

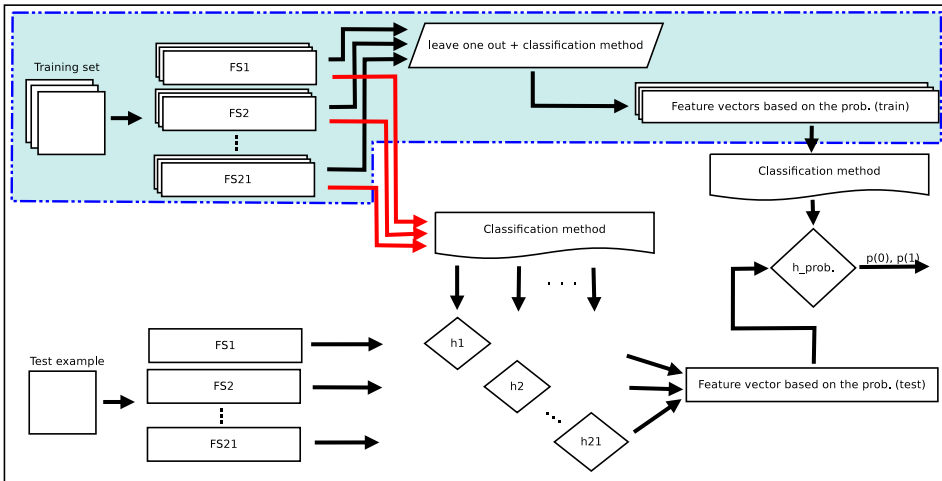
Id	Feature set	# features
FS1	Auto Color Correlogram	768
FS2	CEDD	144
FS3	Color Histogram	64
FS4	FCTH	192
FS5	Fuzzy Histogram	125
FS6	Fuzzy Opponent Histogram	576
FS7	Gabor	60
FS8	Haralick	14
FS9	Histogram	256
FS10	JCD	168
FS11	Jpeg Coefficient Histogram	192

Id	Feature set	# features
FS12	Luminance Layout	64
FS13	MPEG7 Color Layout	33
FS14	MPEG7 Edge Histogram	80
FS15	Mean Intensity Local Binary Patterns	256
FS16	Mean Patch Intensity Histogram	256
FS17	Moments	4
FS18	Opponent Histogram	64
FS19	PHOG	40
FS20	Reference Color Similarity	77
FS21	Tamura	18

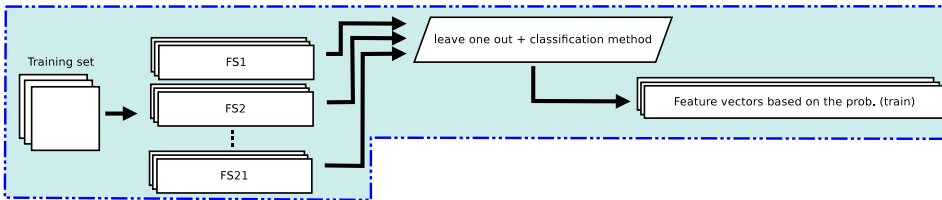
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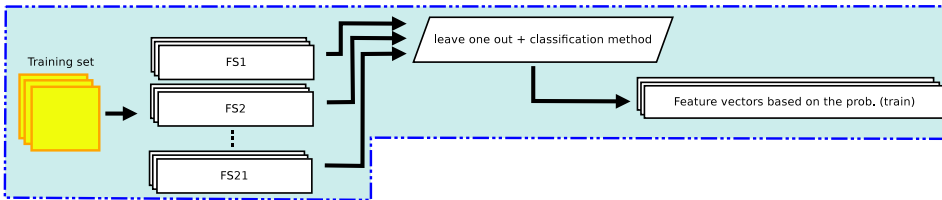
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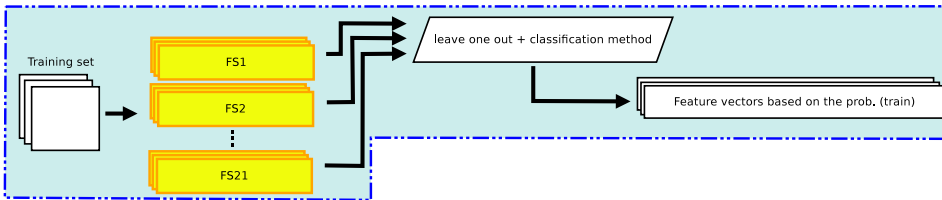
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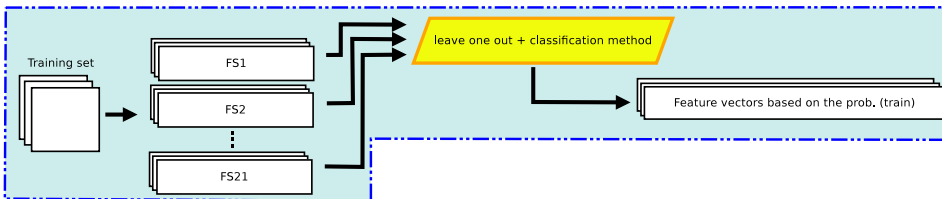
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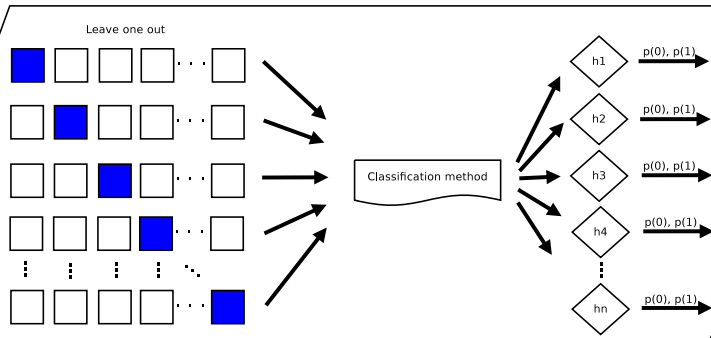


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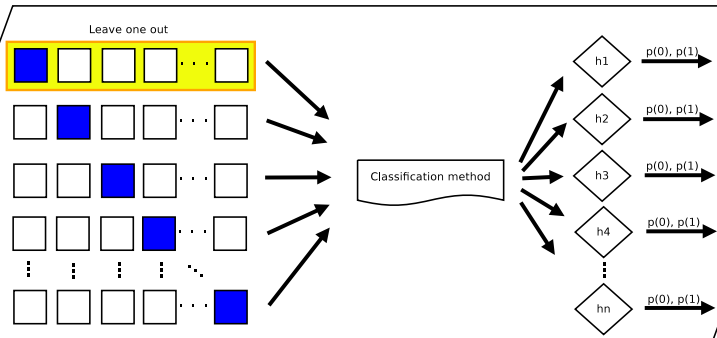




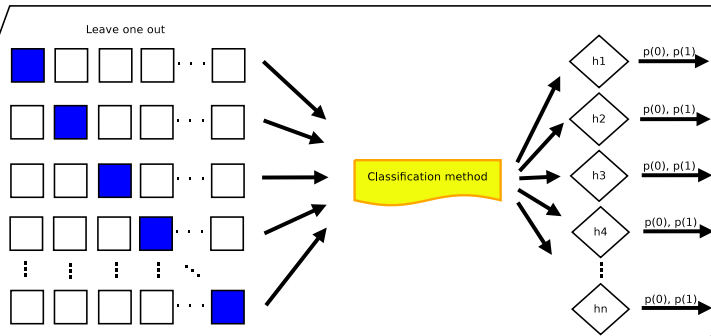
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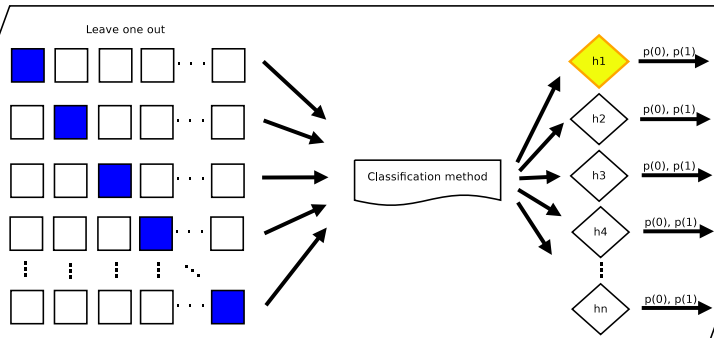


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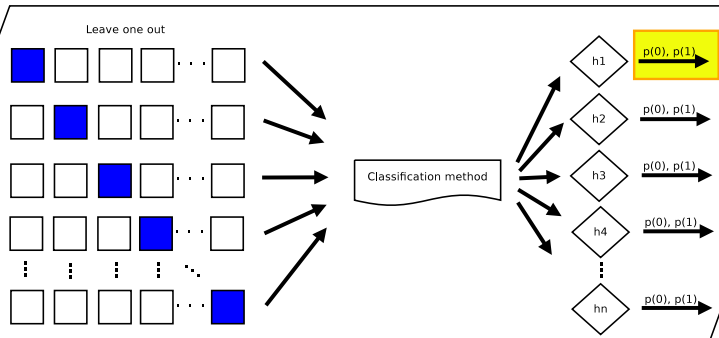


- classification method: Logistic Regression
- class balancing: SMOTE (Synthetic Minority Over-sampling Technique)

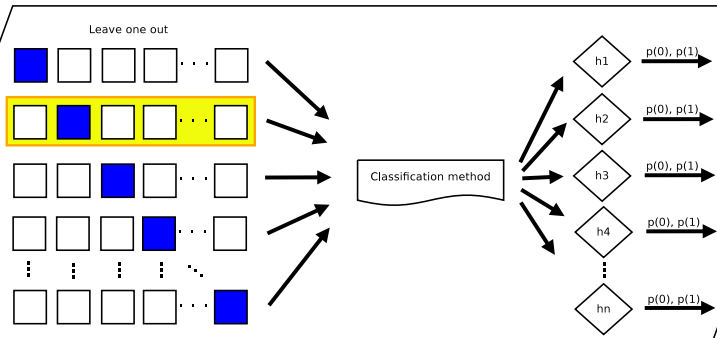
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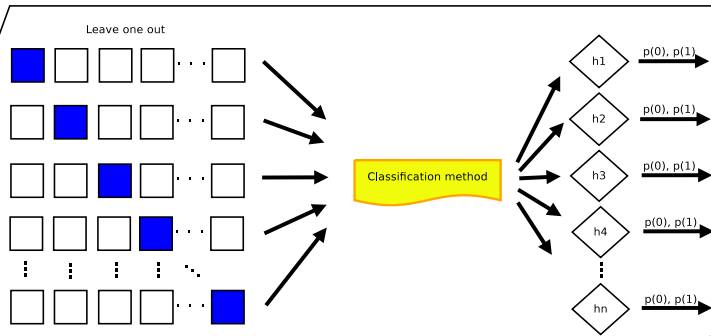
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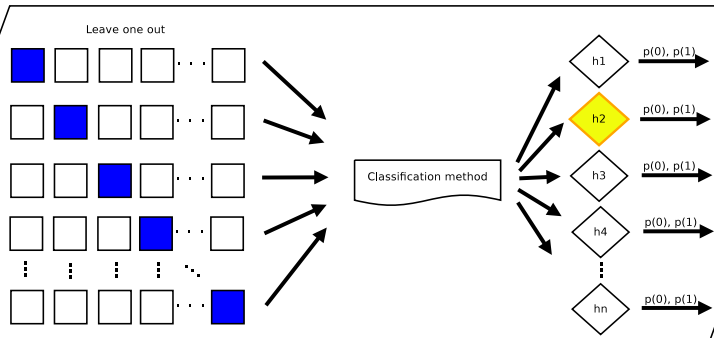


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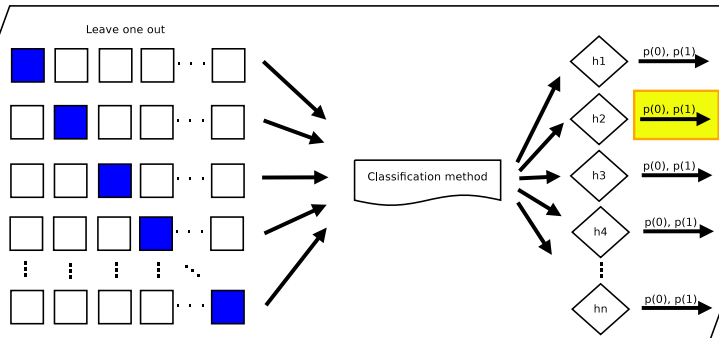
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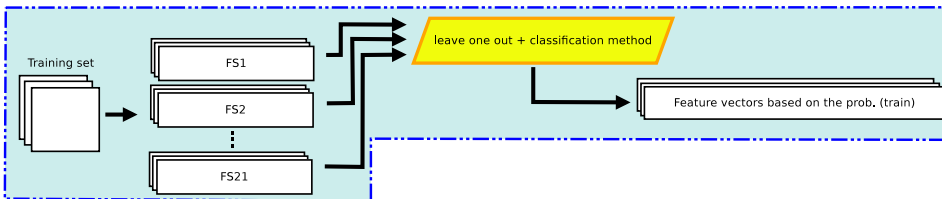




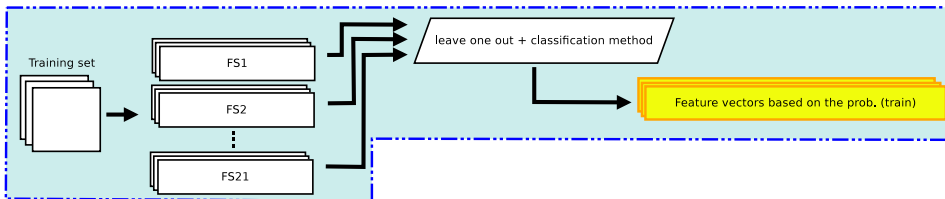
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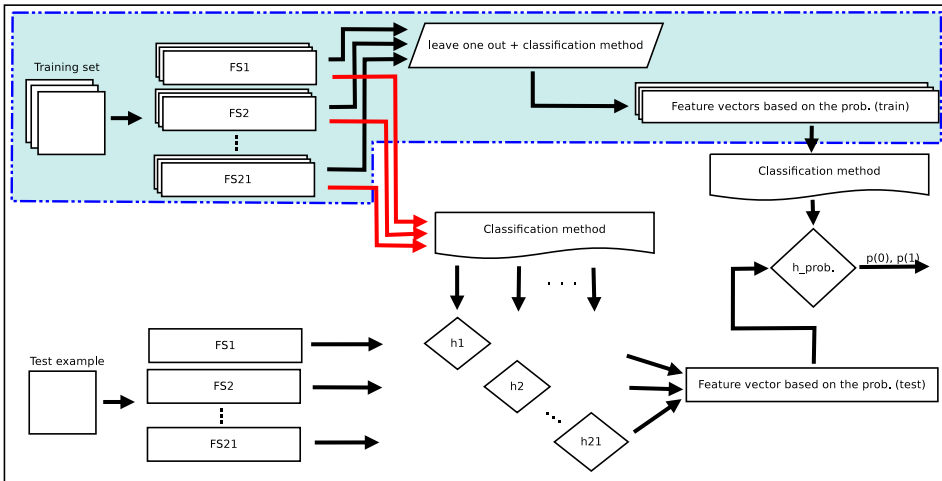


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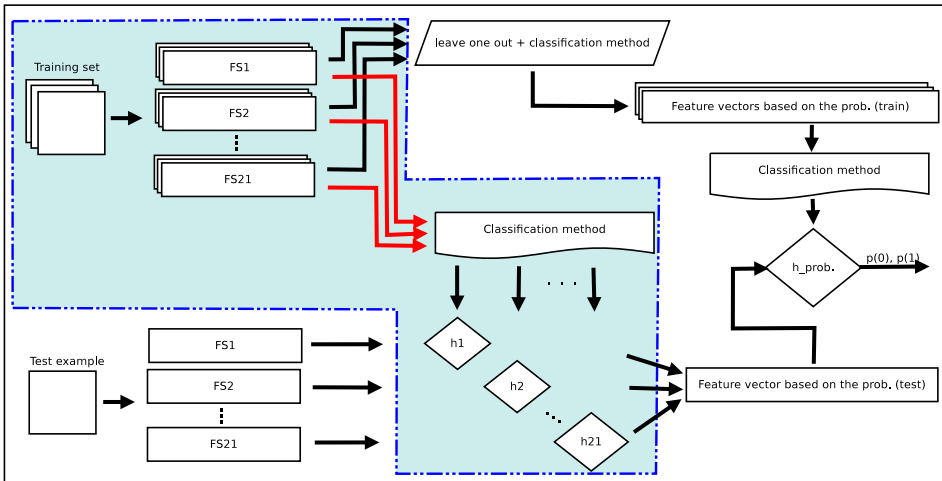


Id	FS1	FS2	FS3	...	FS21
1	$\text{Prob}_{\text{Id}=1,1}$	$\text{Prob}_{\text{Id}=1,2}$	$\text{Prob}_{\text{Id}=1,3}$	...	$\text{Prob}_{\text{Id}=1,21}$
2	$\text{Prob}_{\text{Id}=2,1}$	$\text{Prob}_{\text{Id}=2,2}$	$\text{Prob}_{\text{Id}=2,3}$	...	$\text{Prob}_{\text{Id}=2,21}$
5	$\text{Prob}_{\text{Id}=5,1}$	$\text{Prob}_{\text{Id}=5,2}$	$\text{Prob}_{\text{Id}=5,3}$	...	$\text{Prob}_{\text{Id}=5,21}$
8	$\text{Prob}_{\text{Id}=8,1}$	$\text{Prob}_{\text{Id}=8,2}$	$\text{Prob}_{\text{Id}=8,3}$	...	$\text{Prob}_{\text{Id}=8,21}$
10	$\text{Prob}_{\text{Id}=10,1}$	$\text{Prob}_{\text{Id}=10,2}$	$\text{Prob}_{\text{Id}=10,3}$	...	$\text{Prob}_{\text{Id}=10,21}$
⋮	⋮	⋮	⋮	⋮	⋮
122	$\text{Prob}_{\text{Id}=122,1}$	$\text{Prob}_{\text{Id}=122,2}$	$\text{Prob}_{\text{Id}=122,3}$	...	$\text{Prob}_{\text{Id}=122,21}$

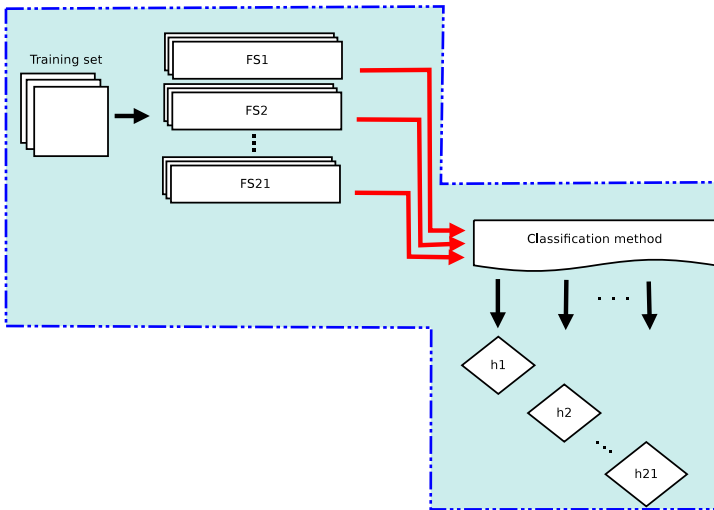
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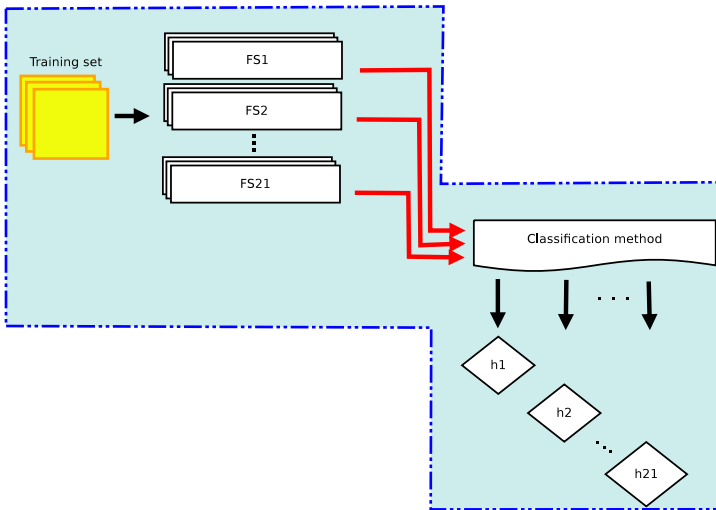
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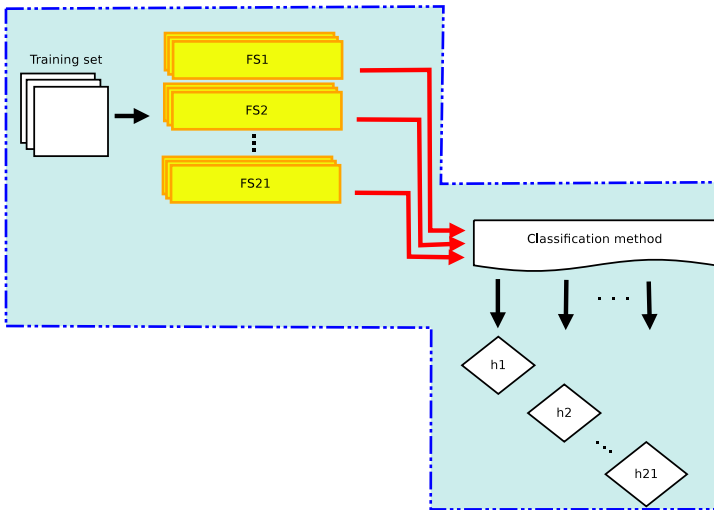
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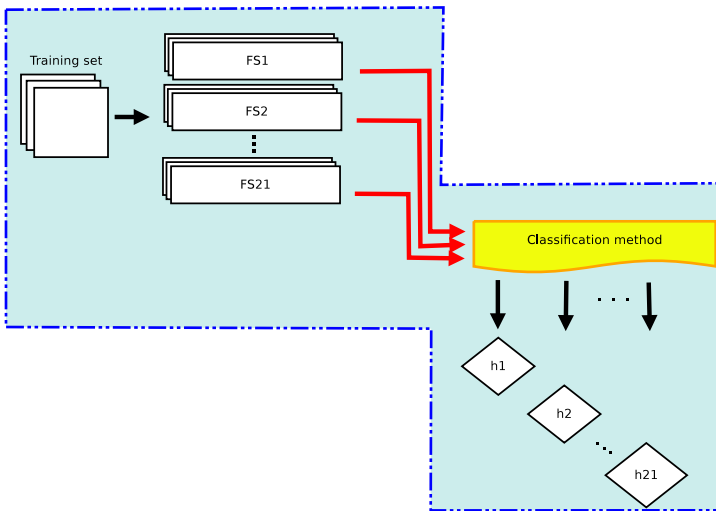


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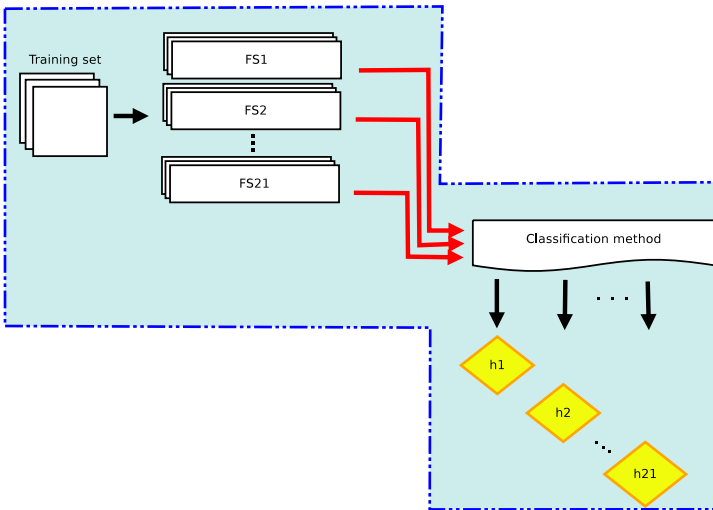


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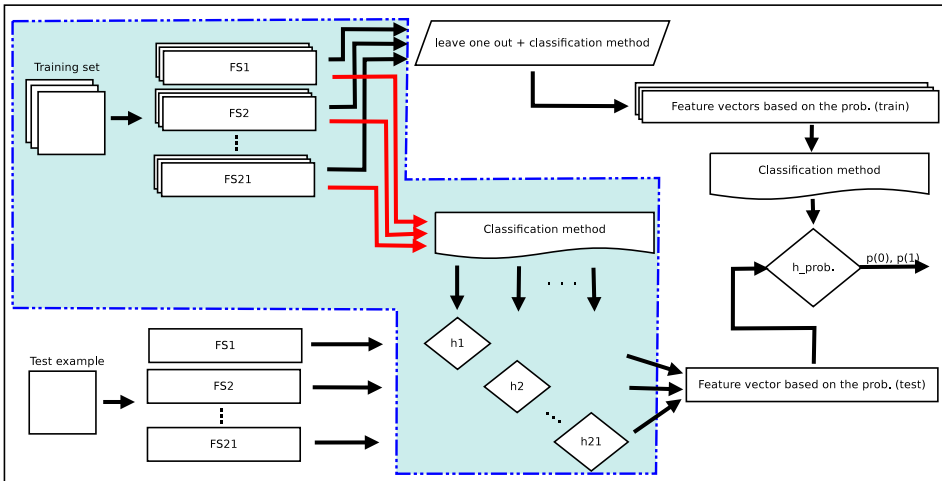


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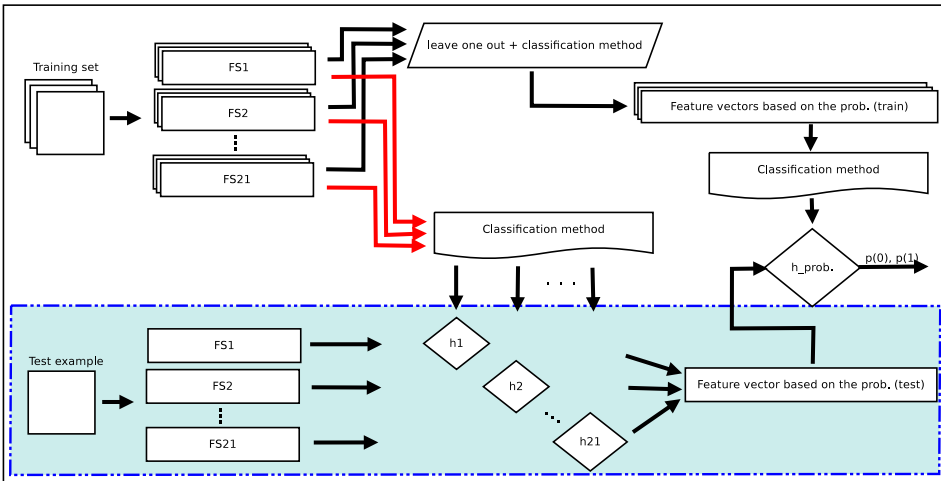
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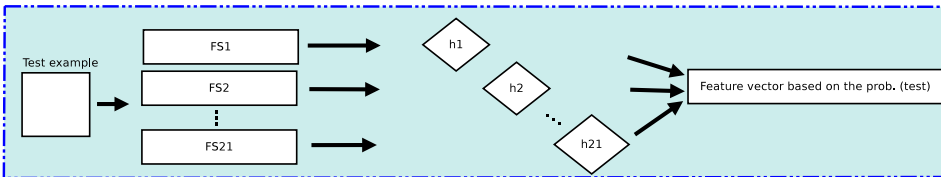
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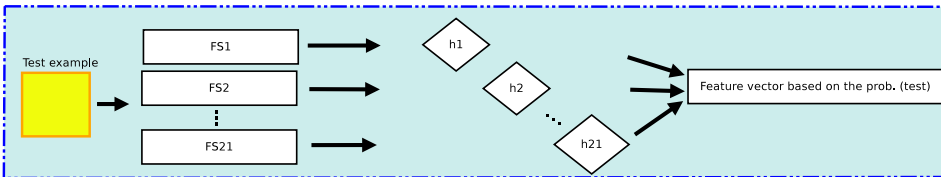
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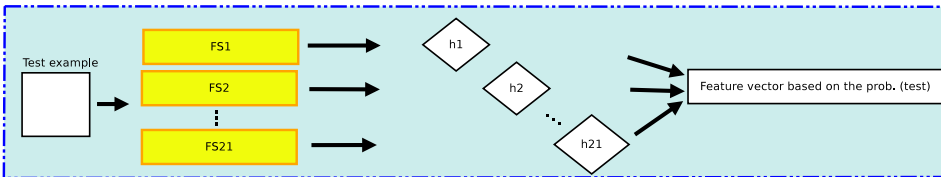
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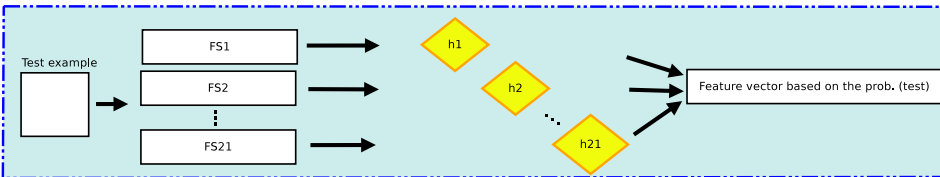
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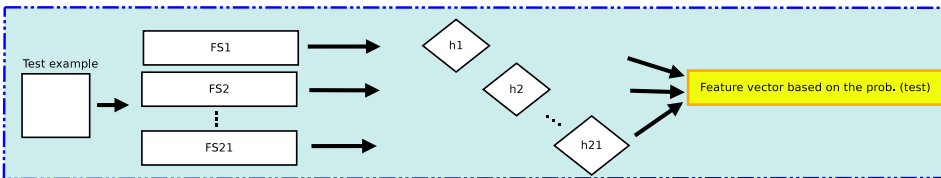


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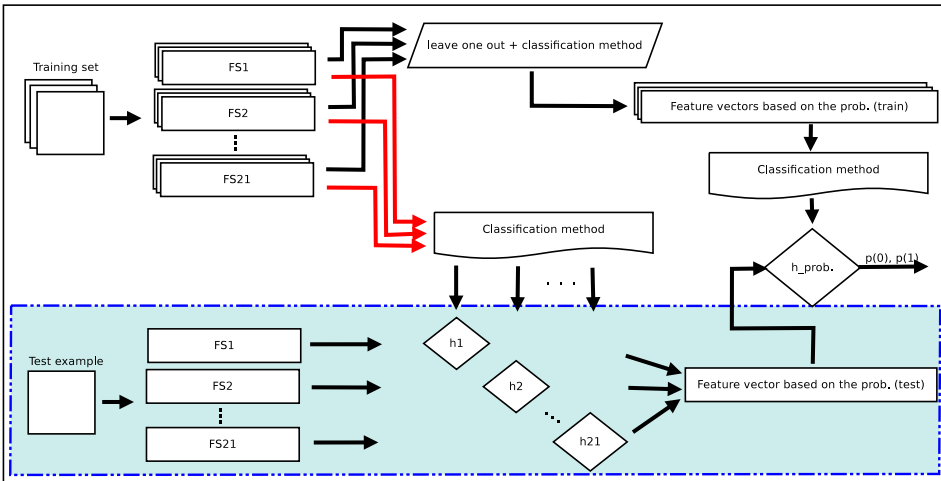


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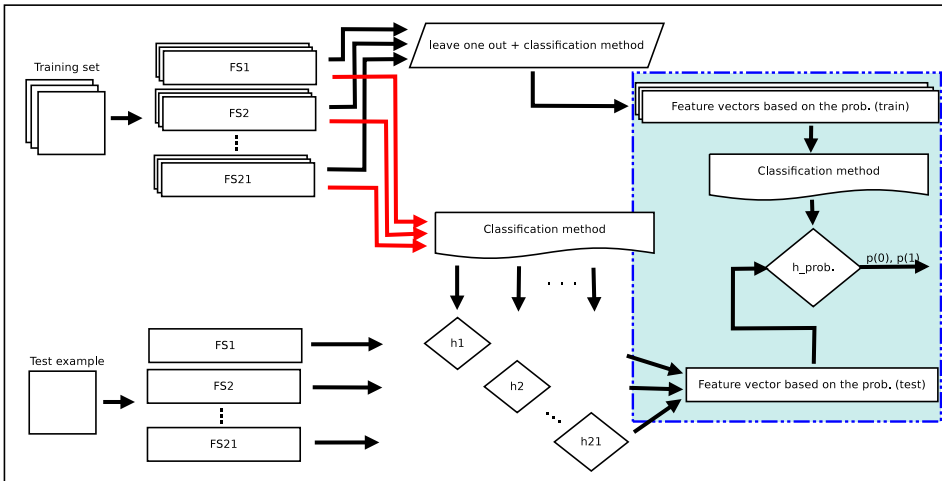


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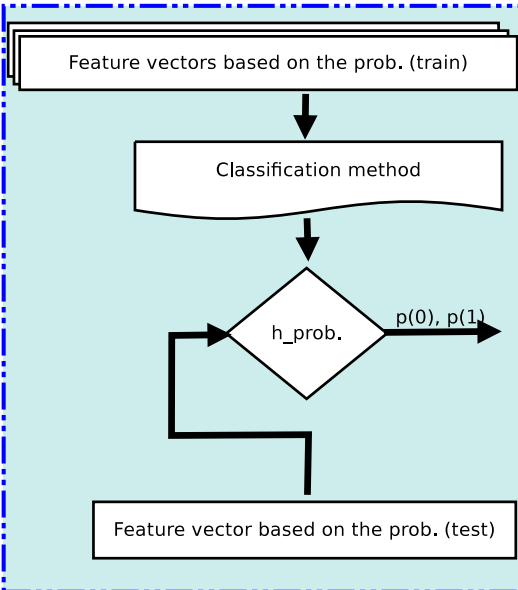
# First selected submission



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# First selected submission

Feature vectors based on the prob. (train)

Classification method

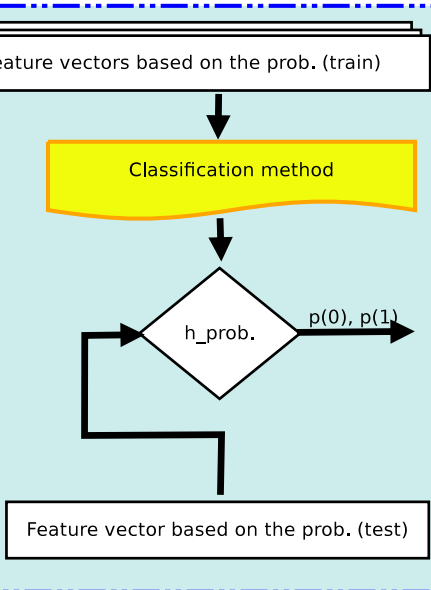
$h_{\text{prob.}}$

$p(0), p(1)$

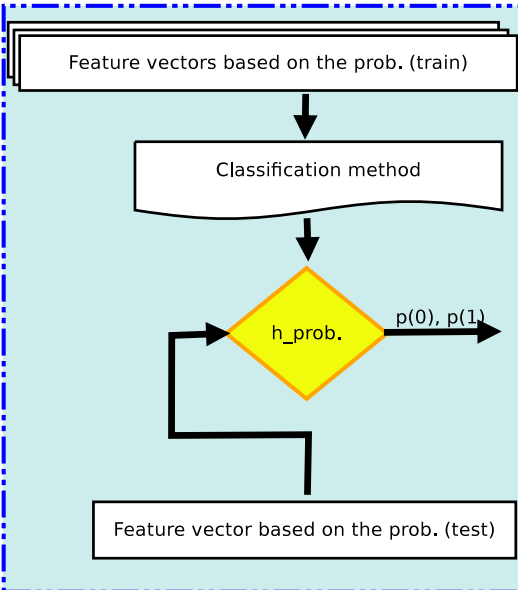
Feature vector based on the prob. (test)

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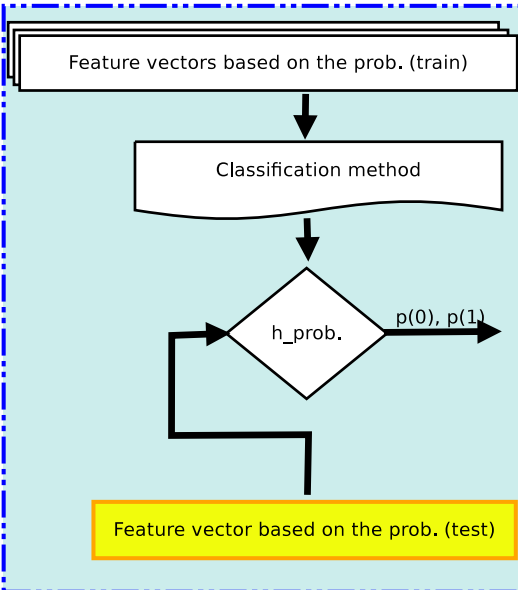
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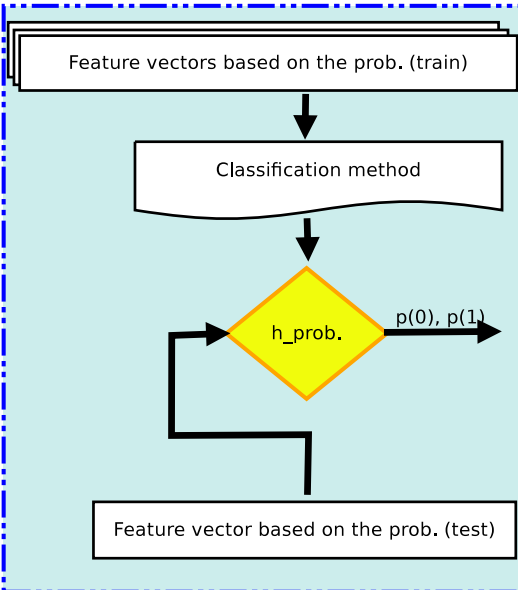


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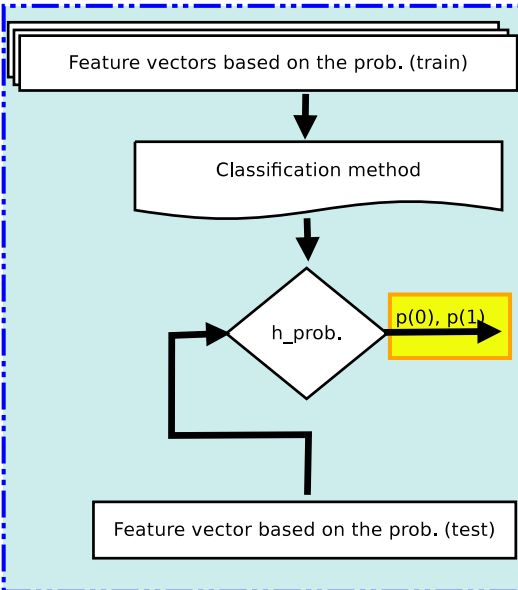




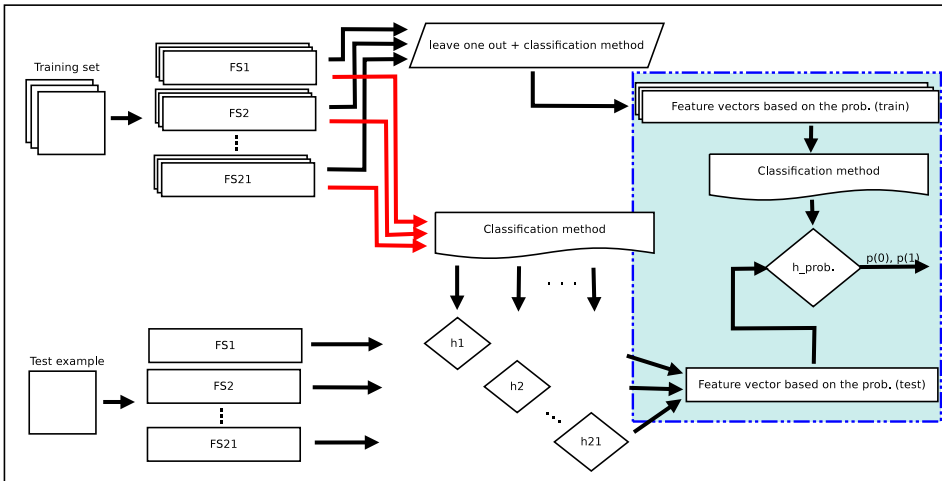
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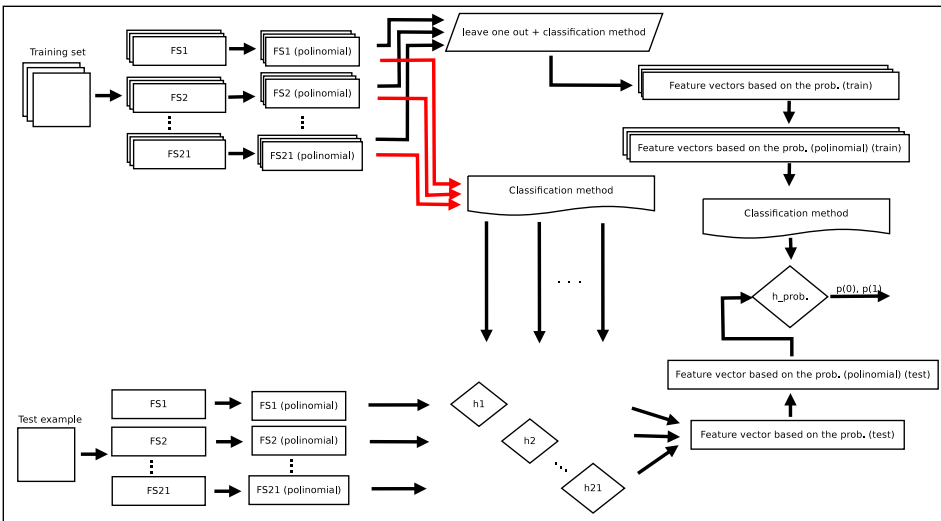
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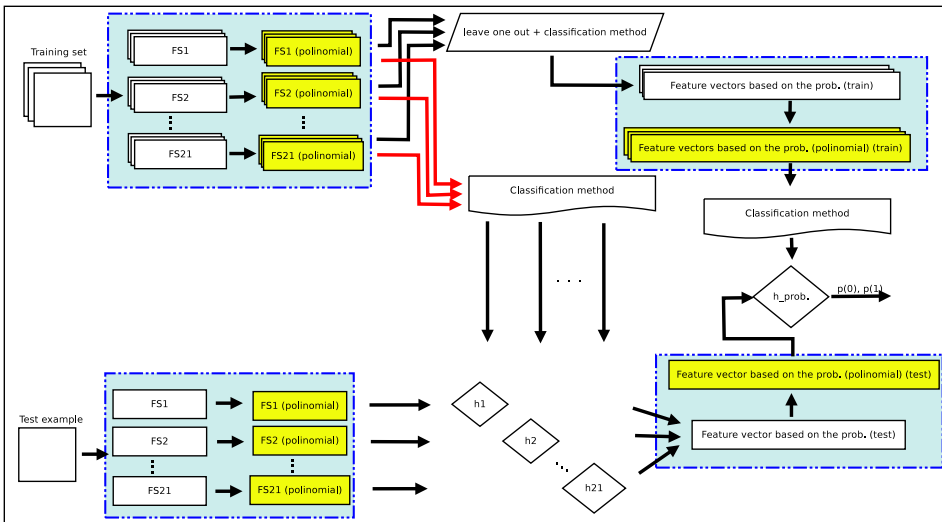
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# Second selected submission



# Second selected submission



- ❑ Python 3.5
- ❑ Logistic Regression: `scikit-learn` library
- ❑ Polynomial features: `scikit-learn` library
- ❑ SMOTE: `imbalanced-learn` library

□ URL: <https://github.com/renatoms88/KDDBR>

renatoms88 / KDDBR

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dataset/DatasetPerFeature	update	21 minutes ago
README.md	update	6 minutes ago
main.py	update	21 minutes ago

README.md

## Competition: Can I make a wish? Predicting the presence of meteors in images

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Here I present the implementation code of my team's approach for solving the 1st KDD-BR (Brazilian Knowledge Discovery in Databases) competition hosted on Kaggle.

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