

Challenges

Lessons from the Pascal Network of Excellence

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Challenge, a world trend

- ▶ DARPA, RoboCup
- ▶ TREC
- ▶ KDD Cup
- ▶ Netflix
- ▶ CAMDA, CASP



Expected benefits

- ▶ assess existing approaches/technologies
much cheaper than consultants
- ▶ push the state of the art
- ▶ raise the standards
- ▶ attract new researchers, give the opportunity of making oneself known
- ▶ facilitate multi-disciplinary dialogue

Challenges in Pascal

<http://www.pascal-network.org>



1. Bridging the gap with neighbor communities

Vision, Speech, Text, Web, Brain Computer Interface...

2. Asking new questions

some directly relevant to ML

Online trading of Exploration/Exploitation

selecting news depending on the user's changing interests

Multiple Simultaneous Hypothesis Testing,

Type I and Type II errors

3. Revisiting common knowledge

Revisiting common knowledge

Collective vs Individual priorities

- ▶ A necessity for the community
though not too often
- ▶ A high risk for the individual



Science is a social activity

- ▶ I have a solution — what is your problem ?
main problem is to select the dataset...
- ▶ Hard to publish unexpected/negative results
Journal of Interesting Negative Results
<http://jinr.site.uottawa.ca/>

Revisiting common knowledge, 2

Dangerous topics / facing true believers

- ▶ Agnostic learning vs Prior knowledge
- ▶ Predicting the Learning Error

Examples in ML:

Why Challenges help

- ▶ A game with fair rules
- ▶ Clear objectives (no beauty in the eye of the beholder)
- ▶ Critical mass