

ChaLearn for *HEP competitions*



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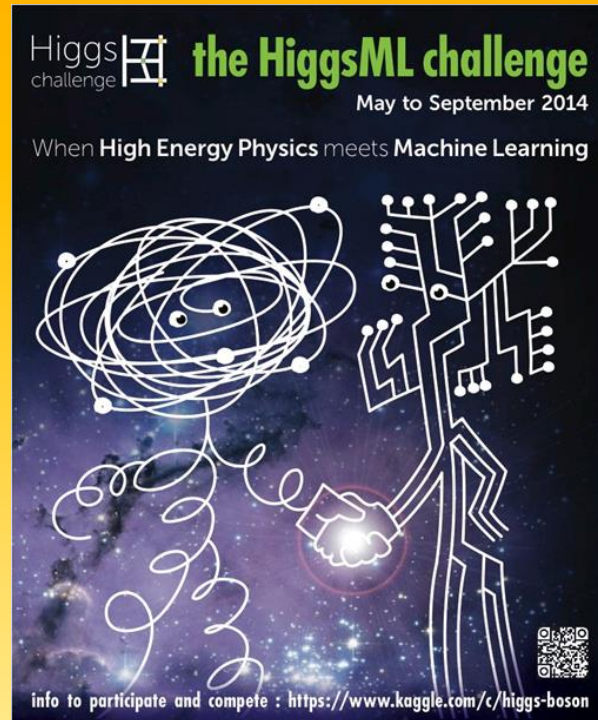
What is Chalearn?

- California non-profit (US tax exempt).
- Organizes challenges since 2005.
- Funded by government grants and industry sponsors.
- 10 directors; 4 officers; dozens of collaborators.
- CiML book series (JMLR reprints) and NIPS workshops.
- Now 3 to 4 challenges per year in 4 main tracks:
 - **Automatic Machine Learning.**
 - **Computer vision: Looking At People (LAP) challenges.**
 - **Causality and network reconstruction.**
 - **High Energy Physics.**



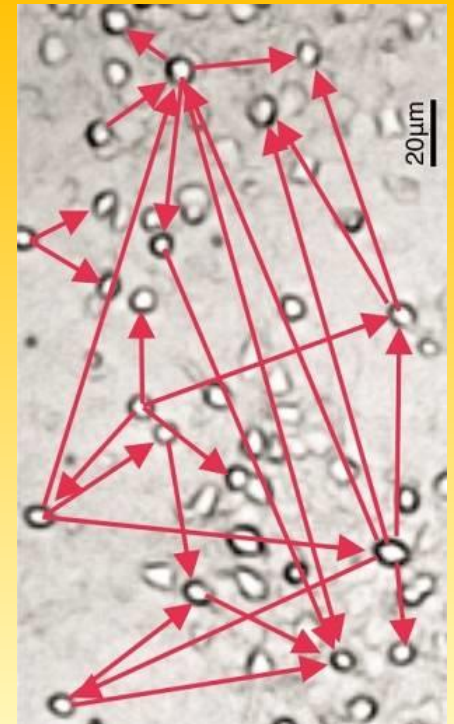
Recent challenges

2010-15: LAP Challenges
(on Kaggle and Codalab)



2014: Higgs Boson
(on Kaggle)

2013: Neural
Connectomics
(on Kaggle)

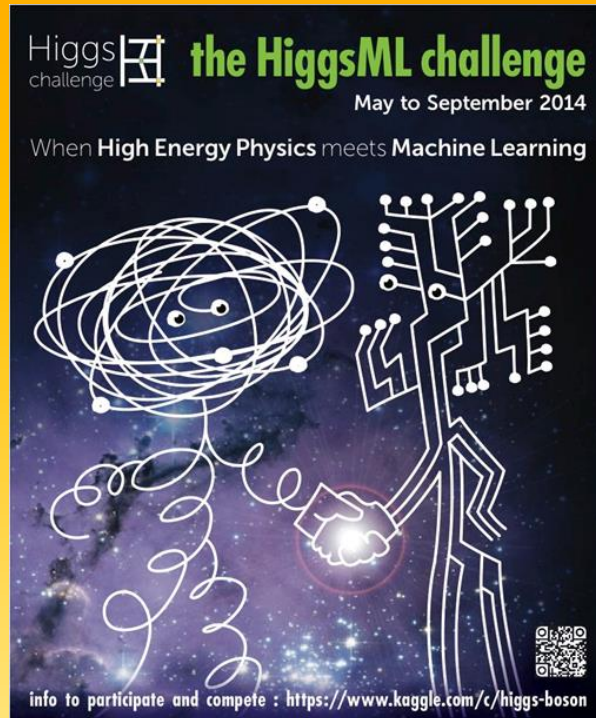




Code *Result* submission

2010-15: LAP Challenges
(on Kaggle and Codalab)

Videos: hours of footage.



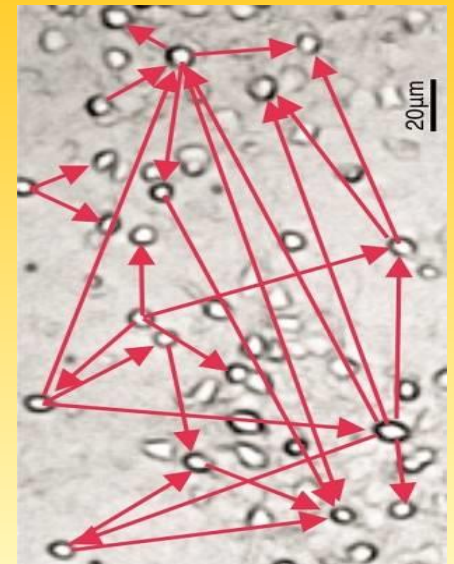
2014: Higgs Boson
(on Kaggle)

40 events per sec x 1 year.

2013: Neural
Connectomics

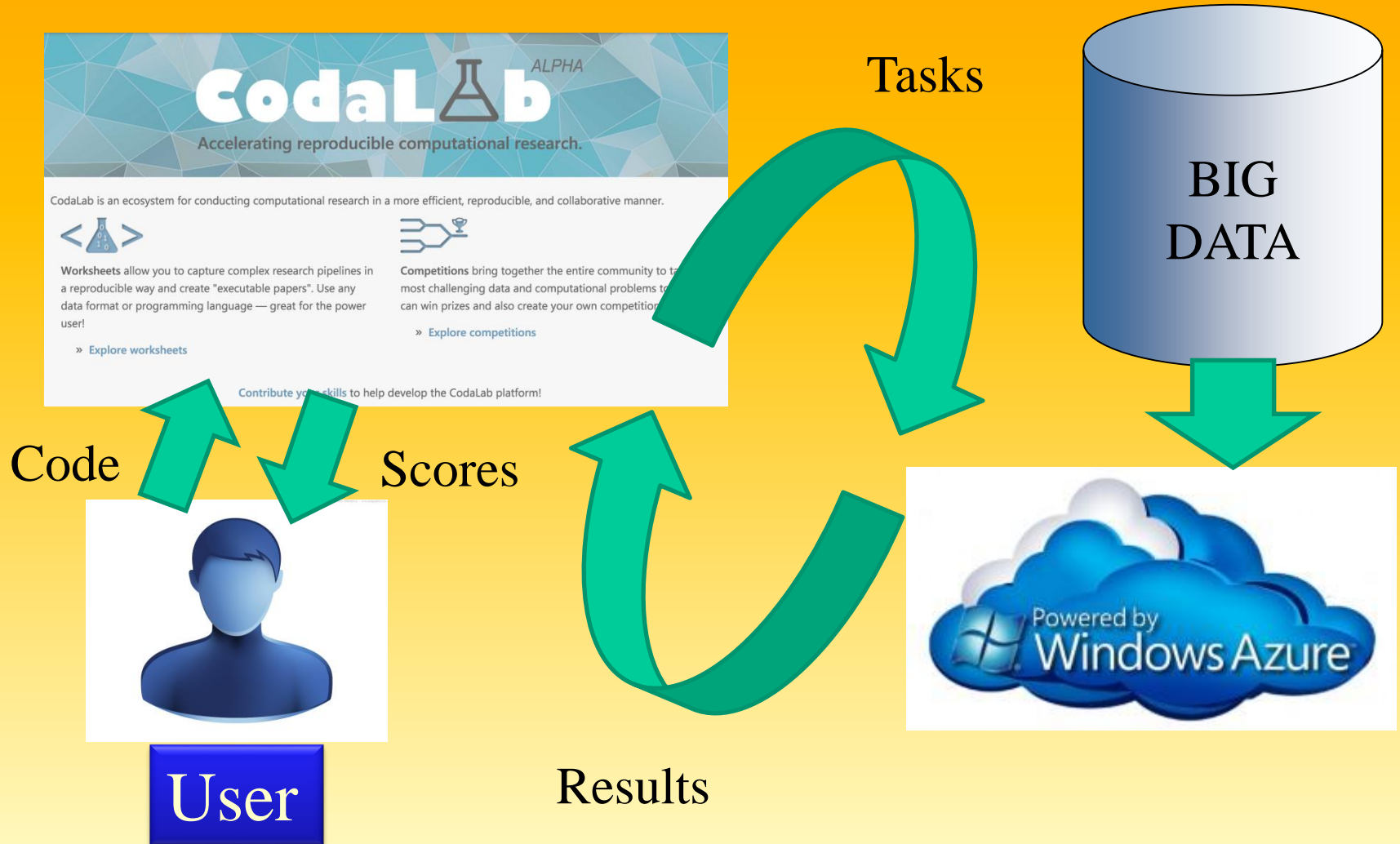
(on Kaggle)

Towards billions
of connections.





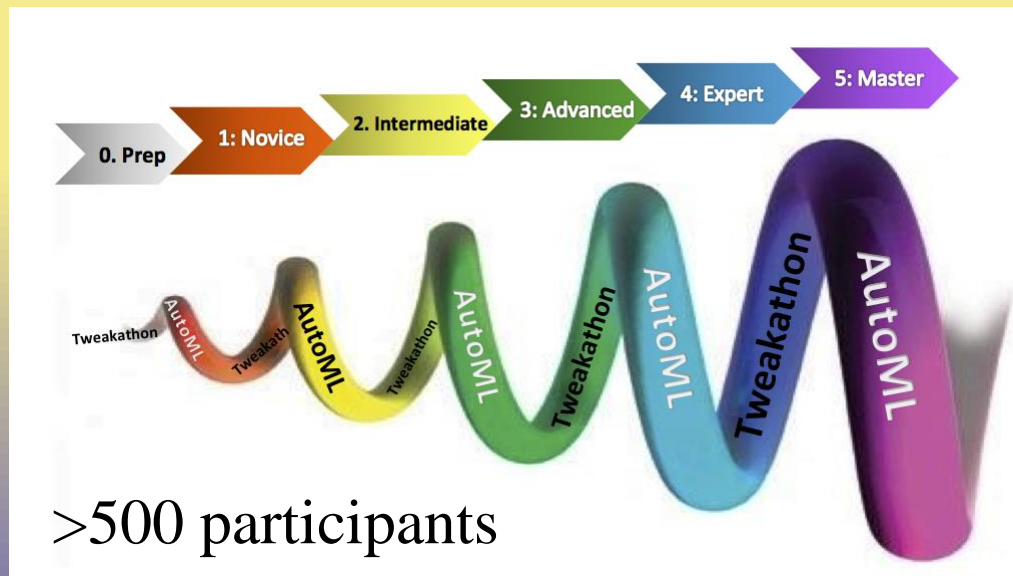
Code submission on Codalab



Testing code submission

AutoML Challenge

Fully automatic machine learning
without ANY human intervention



automl.chalearn.org

December 2014 – January 2016

\$30,000 in prizes



Challenge design



1. Define

- High impact problem.
- Good data.
- Enough data.
- Clear objective.
- Good metric.
- Simple rules.
- No IP contingencies
(except for winners).



2. *Implement*

- Three-way data split (train/valid/test):
 - Immediate feed-back on validation set.
 - Final results on test set.
- Encourage sharing and novelty (coopetition):
 - Forum.
 - Worksheets or scripts.
 - Monitor downloads / likes / thanks.
- Type of submission:
 - Result.
 - Code.
- Beta testing.



3. *Attract*



- Exciting problem description.
- Tutorial.
- Video.
- Starting kit.
- Bootcamp/hackathon.
- Publication outlets.
- Advertising.
- Gamification.

4. *Reward*



- Multiple prizes (phases and/or tracks).
- Medium size prize pool (~ \$5000-\$10,000).
- Travel awards.
- Best paper awards.
- Give credit and rewards to all actors.

5. Harvest



- Open-source code (winners).
- Fact sheets.
- Post-challenge analyses.
- Workshops (broader scope than just the challenge theme).
- Proceedings.
- Crowd-sourced paper.

Build/maintain/expand



Create recurring events



Thank you!

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