

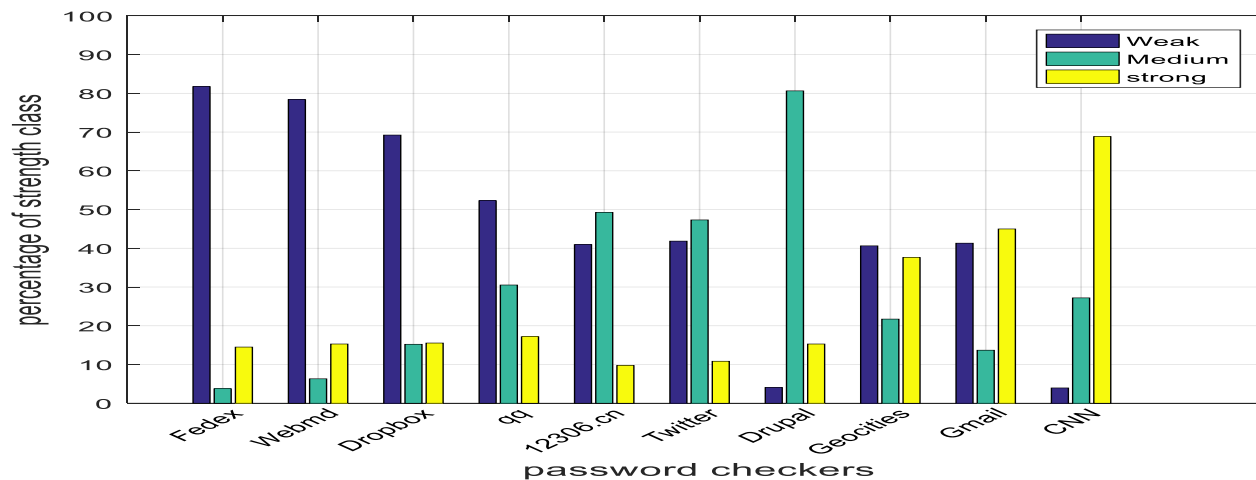
Hybritus: a password strength
checker by ensemble learning from
the query feedbacks of websites

Yongzhong HE, Endalew Elisabeth ALEM, Wei WANG

Frontiers of Computer Science, DOI: [10.1007/s11704-019-7342-y](https://doi.org/10.1007/s11704-019-7342-y)

Problems & Ideas

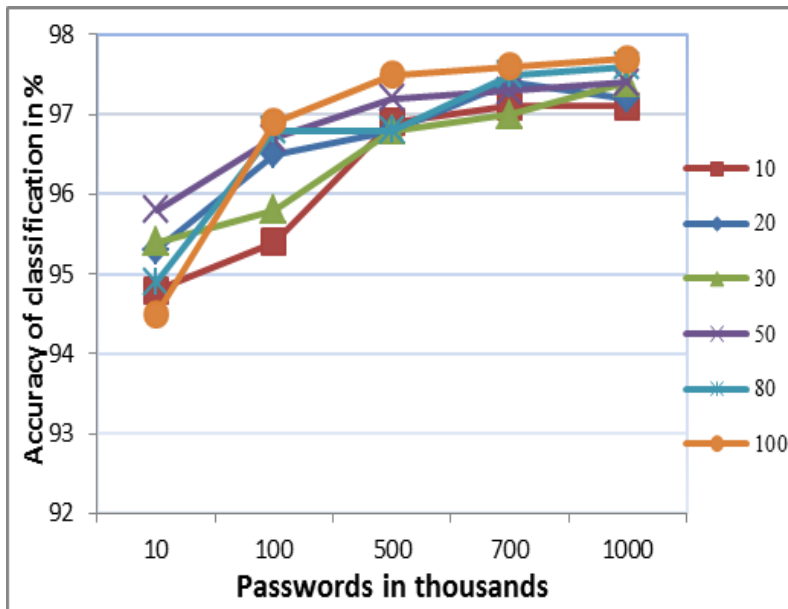
- Problems of password strength measurement/metrics
 - The existing password strength metrics and tools can not produce an objective measurement.
 - Since they cannot accurately model the attackers' strategies, the metrics are different and inconsistent
- Ideas: Hybritus Password Strength Checker
 - integrates different websites' strategies and views into global and robust model of the attackers.
 - Based on multiple layer perceptron (MLP) neural networks.



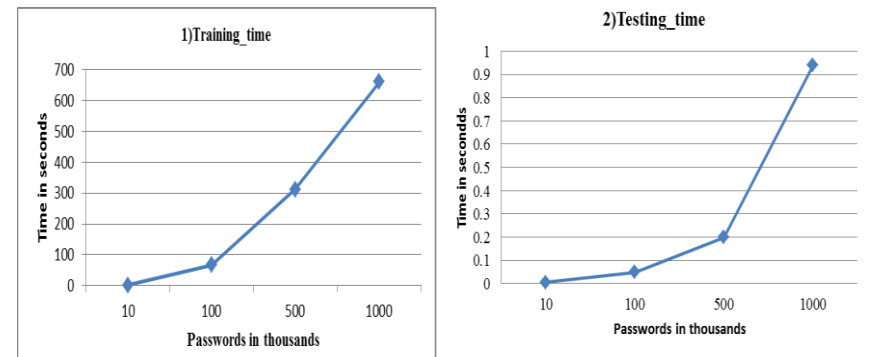
passwords strength feedback against 10 websites' checker

Main Contributions

- Performance of the model for different sizes of data and number of neurons at each hidden layers



- The time it took to train (1) and test (2) the model for different sizes of data



- Performance of multiple layer perceptron (MLP) classifier

	Precision	recall	f1_score	support
Weak	1	0.99	0.99	226666
Medium	0.92	0.97	0.95	58408
Strong	0.93	0.76	0.84	14926
Average/total	0.98	0.98	0.98	300000