Try it out from the Priority Inbox settings tab.

Doug Aberdeen, Ondřej Pacovský, Andrew Slater
PASSIVE-AGGRESSIVE LOGISTIC REGRESSION


\[
e = \begin{cases} 
1 - p & \text{if important;} \\
-p & \text{otherwise.}
\end{cases}
\]

\[w_i \leftarrow w_i + f_i \frac{\max(e - \epsilon, 0)}{\|f\|^2 + \frac{1}{2\lambda}}\]

- A message is important if it’s read/replied/starred/marked within a time limit.

- \(\lambda\) is a regularisation parameter that controls “aggressiveness”.

- \(\epsilon\) is the “passiveness”, related to the hinge loss.
SIMPLE TRANSFER LEARNING

- **Glut** of data globally, **dearth** of data per user.
SCALING

Row key prefix is user ID. But fast Bigtable reads are not in row order!

~100k users per shard.

20 -- 30k f/sec/core.

Why not map-reduce?
FEATURES

~200 global features + personal

Social features
Content features
Thread features
Label features
Spam features