



# DATA

Martin Lopatka  
mlopatka@mozilla.com  
Data Scientist/Applied Statistician

**moz://a**

# Telemetry

Firefox Telemetry (optionally) measures and collects non-personal, performance and usage information.<sup>1</sup>

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<sup>1</sup><https://wiki.mozilla.org/Telemetry>

# Telemetry-Aware Add-on Recommender



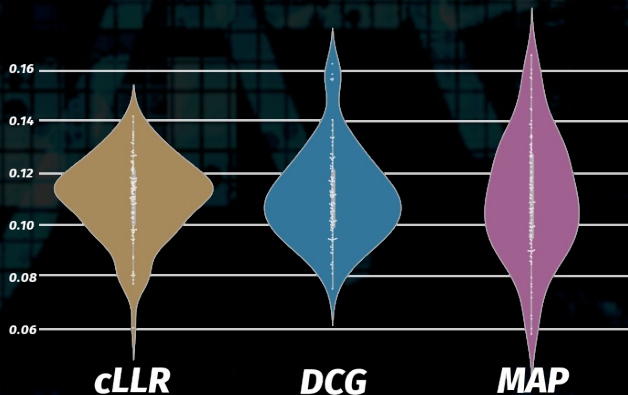
# Differential Privacy

- ▶ Differentially private release mechanism for frequencies reports an approximate answer to an **item:count** distribution.
- ▶ Noise must be chosen to preserve the usefulness of the provided answer while protecting the privacy of the more rare counts

Introduction to DP: <https://robertovitillo.com/2016/07/29/differential-privacy-for-dummies/>

# Log Likelihood Ratio Cost (cLLR)

```
'zh-CN': [('guid_01', 0.75), ..., ('guid_02', 0.05)],  
'fr-FR': [('guid_03', 0.24), ..., ('guid_04', 0.01)],  
...,  
'en-US': [('guid_04', 0.18), ..., ('guid_05', 0.02)]
```



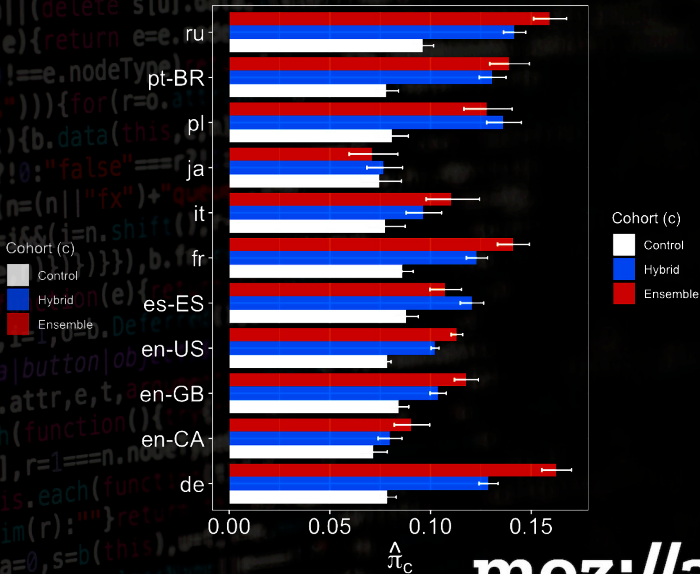
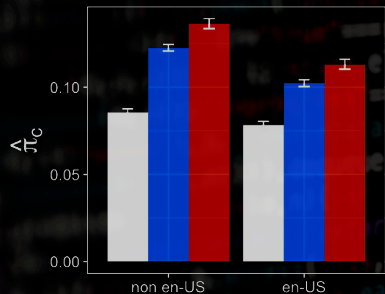
# Experimental design

Experiment ran: 27-Aug-2018 to 29-Oct-2018

Served recommendations to 348 900 unique clients

- ▶ **control** — Manually curated list of add-ons based on a user's locale
- ▶ **ensemble** — Weighted combination of all eligible models from the TAAR service
- ▶ **hybrid** — Identical to the ensemble with some curated add-ons interleaved

# Performance





# Acknowledgements

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**moz://a**