

Towards Sentiment Analysis for Mobile Devices

Johnnatan Messias, João P. Diniz, Elias Soares, Miller Ferreira, Matheus Araújo, Lucas Bastos, Manoel Júnior, **Fabício Benevenuto**

<http://www.ifeel.dcc.ufmg.br>

About

We provide the first of a kind study in which we compare the performance of sentiment analysis methods in the mobile environment.

- 17 Sentiment Analysis Methods analyzed and adapted to Android.
- Battery, Memory, and CPU evaluation
- API available for download

Experimental Setup

- OS Monitor Adaptation
- Each experiment consists of running: 10; 100; 1,000; and 10,000 tweets in English.
- 31 executions for each experiment.
- 95% confidence level
- 5 LG G3 as smartphone devices
- Android



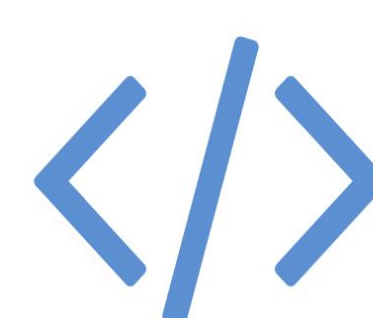
Performance Evaluation

We present the performance evaluation in 3 scenarios:

- Battery evaluation
- Memory evaluation
- CPU evaluation
- Sentiment140 Lexicon and SentiWordNet were not able to run on Android



Code available under request:



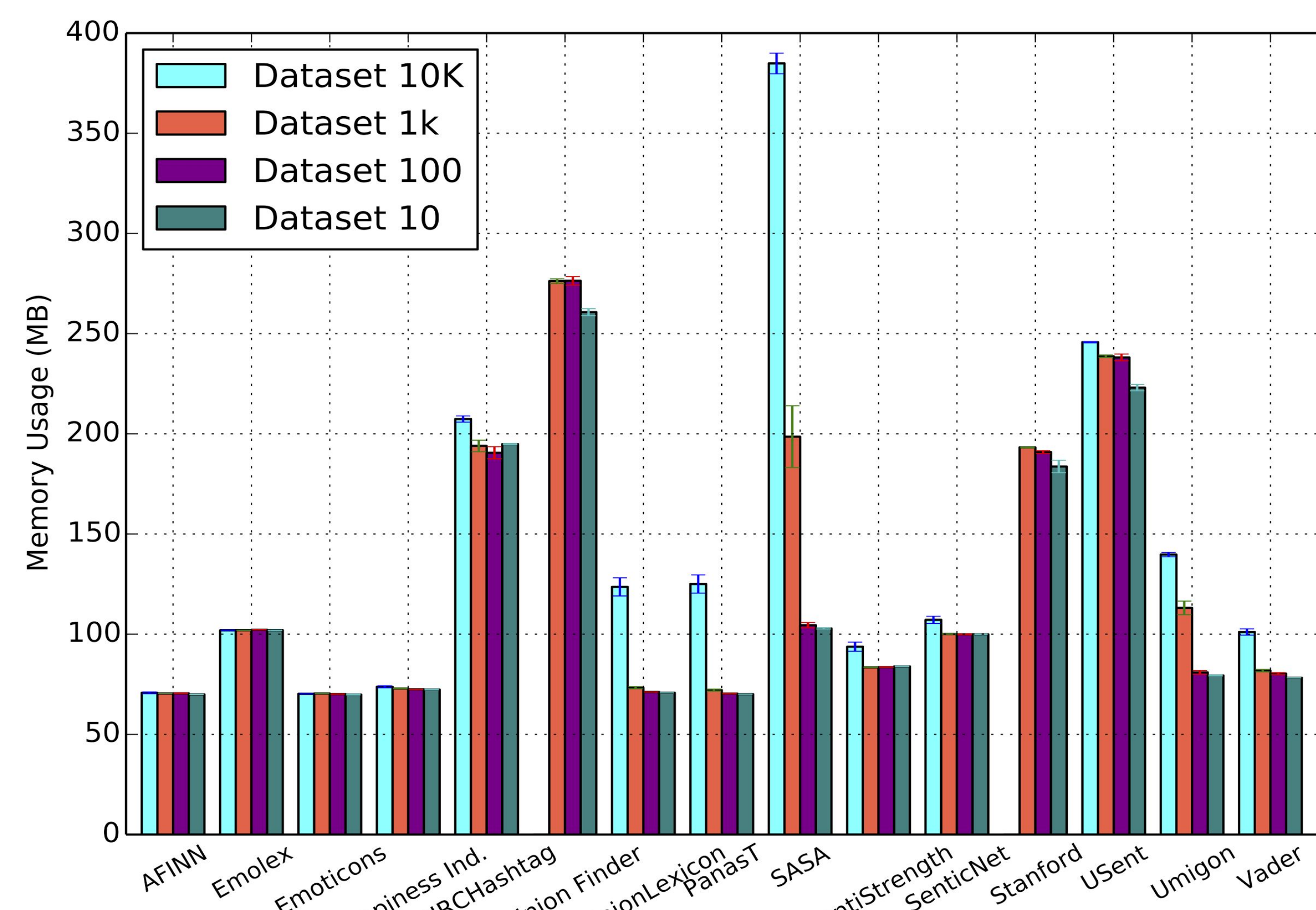
17 methods adapted to run on Android



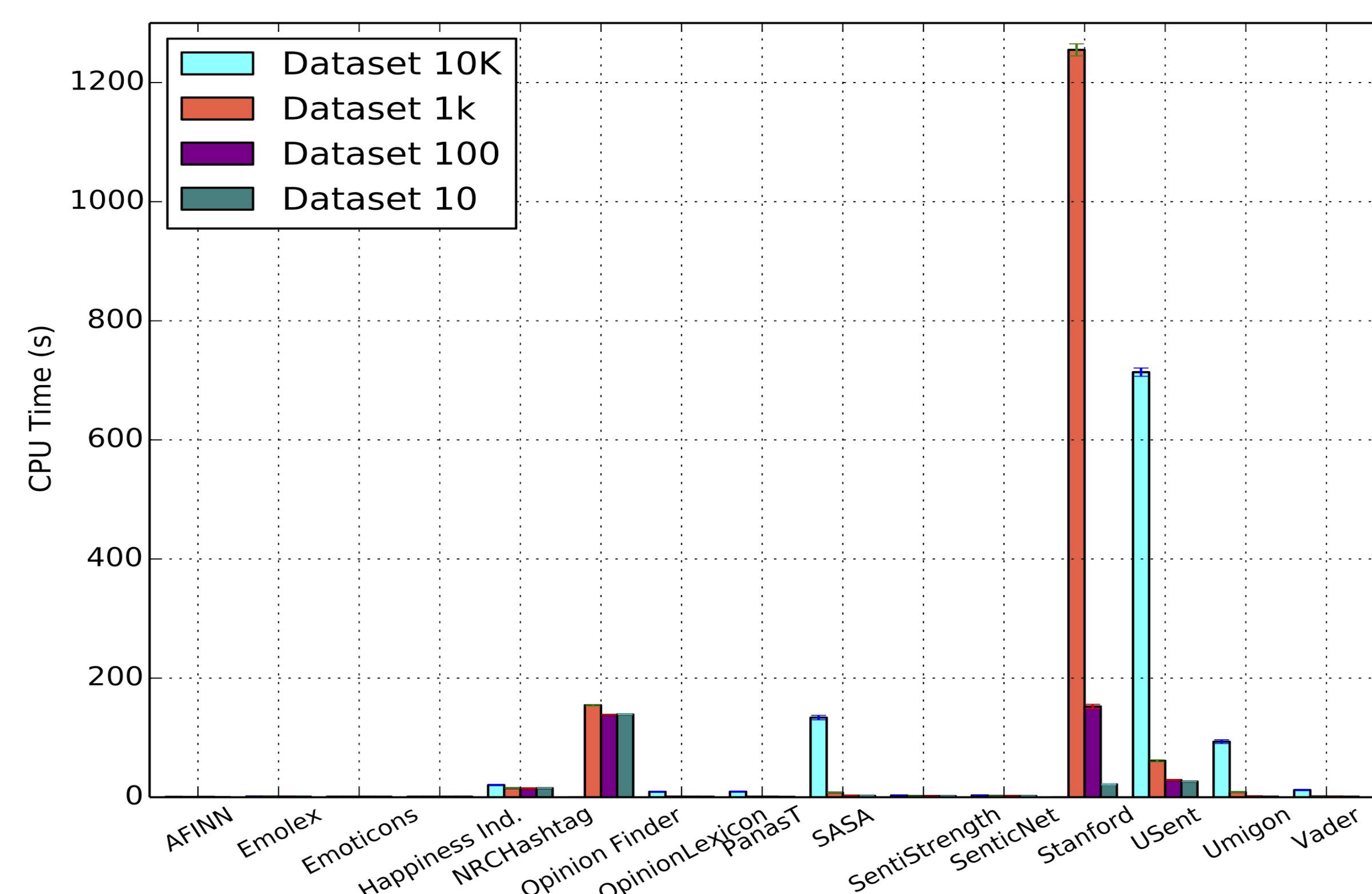
OS Monitor adaptation
used on evaluation



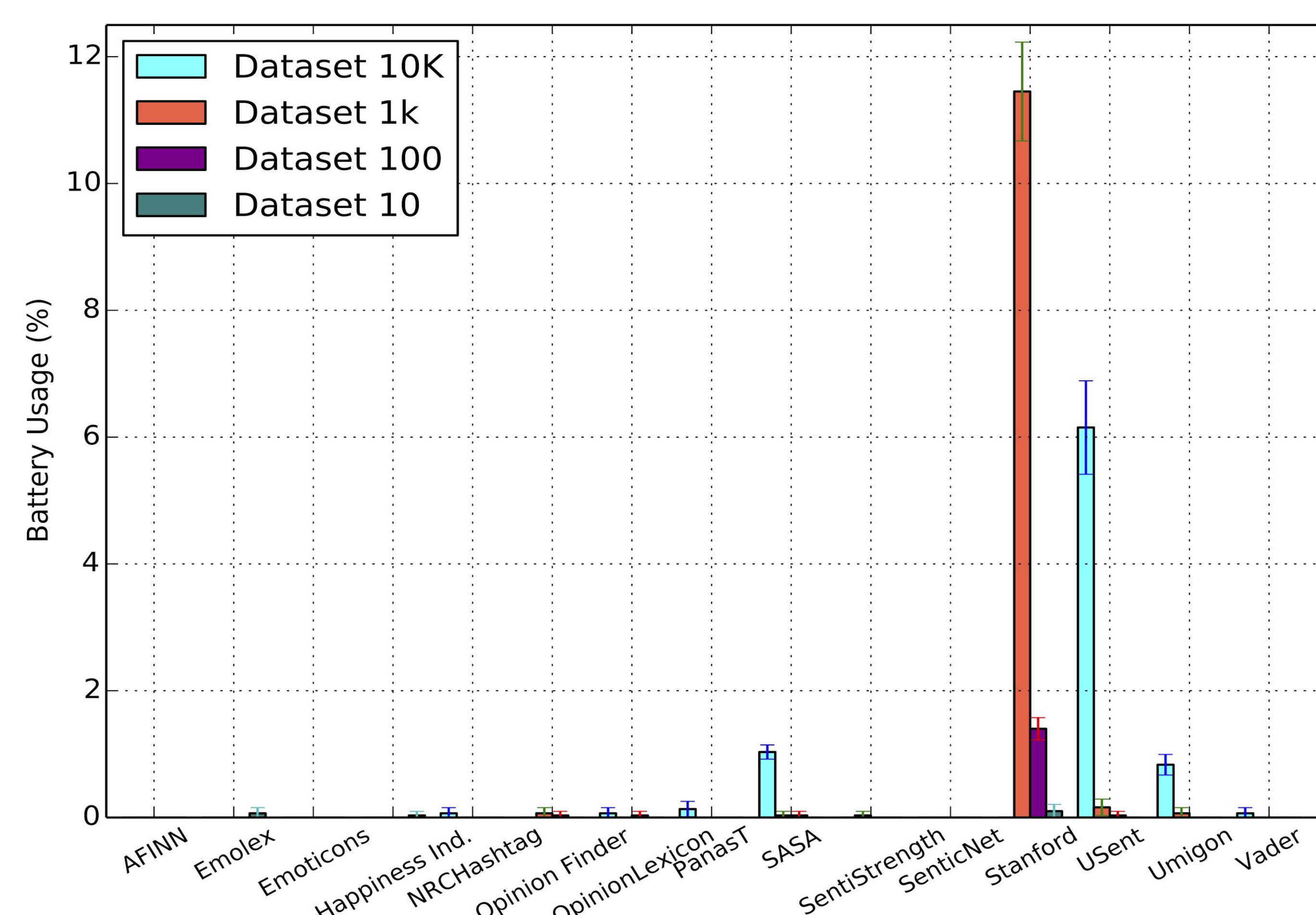
Memory Evaluation



CPU Evaluation



Battery Evaluation



Conclusion

- Methods such as NRCHashtag, OpinionFinder, USent, Sasa, Stanford are not recommended.
- Lexical methods got better performance.
- We release our Android API that implements all the 17 sentiment analysis methods.