















personalization to reflect individual user's concerns. We need to investigate the implications in applying a personalized policy for the participants, considering their individual behavior. Further, in order to improve the reliability, we need to incorporate quality guarantees on query responses as well as control the community sensor network to minimize resource usage by changing the data fidelity depending on the query being processed.

### Conclusions and Future Work

The implications of applying the community sensing paradigm to sense large events like conferences are explored in this work with the help of a simple setup that was deployed at a technical conference. Our preliminary analysis was oriented towards understanding movement statistics and the distribution of data submitted by users. We find that, while it might be possible to infer some basic attributes of the event, a cloud coordinated approach with a personalized policy framework can improve both reliability of inference, and the user experience. Our future work is oriented towards developing reliable algorithms to estimate key performance indicators of such events, from crowdsensed data, and by detecting and controlling the collection of high value data.

### References

- [1] R. K. Ganti, F. Ye, and H. Lei, "Mobile crowdsensing: current state and future challenges." *IEEE Communications Magazine*, no. 11, pp. 32–39, 2011.
- [2] D. Christin, A. Reinhardt, S. S. Kanhere, and M. Hollick, "A survey on privacy in mobile participatory sensing applications," *Journal of Systems and Software*, vol. 84, no. 11, pp. 1928–1946, 2011.
- [3] K. Aberer, S. Sathe, D. Chakraborty, A. Martinoli, G. Barrenetxea, B. Faltings, and L. Thiele, "Opensense: Open community driven sensing of environment," in *Proceedings of the ACM SIGSPATIAL International Workshop on GeoStreaming*. ACM, 2010, pp. 39–42.
- [4] H. Lu, J. Yang, Z. Liu, N. D. Lane, T. Choudhury, and A. T. Campbell, "The jigsaw continuous sensing engine for mobile phone applications," in *Proceedings of the 8th ACM Conference on Embedded Networked Sensor Systems*. ACM, 2010, pp. 71–84.
- [5] M.-R. Ra, B. Liu, T. F. La Porta, and R. Govindan, "Medusa: A programming framework for crowd-sensing applications," in *Proceedings of the 10th international conference on Mobile systems, applications, and services*. ACM, 2012, pp. 337–350.
- [6] Y. Wang, J. Lin, M. Annavaram, Q. A. Jacobson, J. Hong, B. Krishnamachari, and N. Sadeh, "A framework of energy efficient mobile sensing for automatic user state recognition," in *Proceedings of the 7th international conference on Mobile systems, applications, and services*, ser. MobiSys '09, 2009.
- [7] E. Miluzzo, C. T. Cornelius, A. Ramaswamy, T. Choudhury, Z. Liu, and A. T. Campbell, "Darwin phones: the evolution of sensing and inference on mobile phones," in *Proceedings of the 8th international conference on Mobile systems, applications, and services*, ser. MobiSys '10, 2010.
- [8] C. Qin, X. Bao, R. Roy Choudhury, and S. Nelakuditi, "Tagsense: a smartphone-based approach to automatic image tagging," in *Proceedings of the 9th international conference on Mobile systems, applications, and services*, ser. MobiSys '11, 2011.