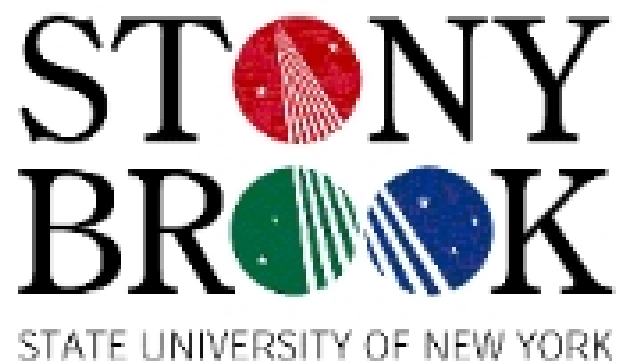

Robust Aggregation in Sensor Networks

Jie Gao

Computer Science Department
Stony Brook University



Papers

- **[Nath04]** Suman Nath, Phillip B. Gibbons, Zachary Anderson, and Srinivasan Seshan, [Synopsis Diffusion for Robust Aggregation in Sensor Networks](#)". In proceedings of ACM SenSys'04.

[Broder02] A. Broder and M. Mitzenmacher, [Network Applications of Bloom Filters: A Survey](#), Proceedings of the 40th Annual Allerton Conference on Communication, Control, and Computing, pp. 636-646, 2002.

Aggregation tree in practice

- Tree is a fragile structure.
 - If a link fails, the data from the entire subtree is lost.
- Fix #1: use a DAG instead of a tree.
 - Send $1/k$ data to each of the k upstream nodes (parents).
 - A link failure lose $1/k$ data

