



Data Querying

Computing Task for u_i

$$u_{sum} += gradient(u_i, v_j, r_{i,j})$$

$$d_{u_i} = d_{u_i} - 1$$

$$d_{u_i} = 0$$

$$u_i = u_i - \alpha \left(u_{sum} + \lambda u_i \right)$$

Task Execution

Send $< j, u_i >$ by item out edge

Data Sending