Abstract:
Hybrid human/machine database and search systems promise to greatly expand the usefulness of query processing by incorporating human knowledge and experience via "crowdsourcing" into existing systems for data gathering and other tasks. Of course, such systems raise many implementation questions. For example, how can we reason about query result quality in a hybrid system? How can we best combine the benefits of machine computation and human computation? In this talk I describe how I attacked these challenges by developing statistical tools that enable users and systems developers to reason about query completeness in hybrid database systems, as well as combining human and automated processing in search engines. I present evaluations of these techniques using experiments run on a popular crowdsourcing platform, Amazon's Mechanical Turk.

Bio:
Beth Trushkowsky is a Ph.D. candidate at University of California at Berkeley. She is currently in the database group and the AMP lab. Her current research is to leverage human intelligence via crowdsourcing to create hybrid human-machine database systems to aid in answering difficult queries. She is particularly interested in quality and resource management in such hybrid systems.

Beth finds the teaching experience to be extremely rewarding and inspiring. An important part of her agenda for Computer Science education is broadening participation of under-represented students.