Chapter 3

Research Questions

Building upon the results of prior research, my thesis aims to expand upon these results by addressing the following question.

Study 1 examines dialogues at the level of the individual utterance, and specifically asks how dialogic function affects the way an utterance is produced.

RQ 1a) Can typing patterns predict differences in pairs of dialogue acts, where each member of the pair would require a very different response?

RQ 1b) Does each dialogue act have a consistent set of typing patterns associated with it?

Study 2 then looks at conversational sentiment analysis by modeling the sentiment of complete turns (composed of one or more successive utterances). In addition, it looks at the sentiment change between two participants' successive turns.

RQ 2a) Does keystroke information provide additional information about user sentiment, above standard lexically-determined sentiment values?

RQ 2b) Does keystroke information provide additional information about changes in user sentiment, when sentiment changes from one turn to the next?

RQ 2c) Are typing patterns sensitive to a user's opinion of their partner, when considered independently from the sentiment of a user's utterances?

Finally, **Study 3** uses typing patterns and stylographic features to predict whether a subject is enjoying a conversation. The study asks not only whether typing data from the entire interaction can predict rapport levels, but also how well specific subsets of data can predict rapport.

RQ 3a) Can typing patterns over an entire conversation be used to predict low levels of rapport between partners in an interaction?

RQ 3b) Can a random subset of keystroke data predict conversational rapport as well as a complete set of keystrokes?

RQ 3c) Does a subset of keystrokes from the first half of a conversation predict low rapport as well as a subset of keystrokes from the second half of a conversation?

RQ 3d) Does a subset of keystrokes from when a subject is providing recommendations predict low rapport as well as a subset of keystrokes from when a subject is receiving recommendations?