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Research Summary 2

For this assignment I read *Effects of Language Modeling and its Personalization on Touchscreen Typing Performance*, written by Andrew Fowler, Kurt Partridge, Ciprian Chelba, Xiaojun Bi, Tom Ouyang, and Shumin Zhai. This research paper investigates the use of a combined spatial/language model and personalization to significantly reduce the word error rate for smart touch keyboards on smartphones. According to the data, they were able to decrease the error rate due to imprecise finger tapping from 38% to 6%, as well as improve prediction efficiency with and without personalization, by using a simple decoder and a background language model.

Similar to the first paper, this research paper is incredibly dense with jargon and notation that I would not understand had I not taken CS 70. The decoder that they created is written out as pseudocode algorithms and many of their calculations involved conditional probability. The topic of this paper still has its roots in Natural Language Processing, but typing and smartphones are things that I can relate to, making this paper somewhat easier to understand than the first. It is difficult to find oversights, since on paper everything seems to make sense; in a live presentation and demonstration, it would be easier to find something important that was glossed over by the presenter.