ABSTRACT

I will present what I hope is a fun and informative exploration into bar code scanning. Bar codes are ubiquitous -- they are used to identify products in stores, parts in a warehouse, and books in a library, etc. In this talk, I will describe how information is encoded in a bar code and how it is read by a scanner. The presentation will go over how the decoding process, from scanner signal to coded information, can be formulated as an inverse problem. The inverse problem involves finding the "word" hidden in the signal. What makes this inverse problem, and the approach to solve it, somewhat unusual is that the unknown has a finite number of states.