

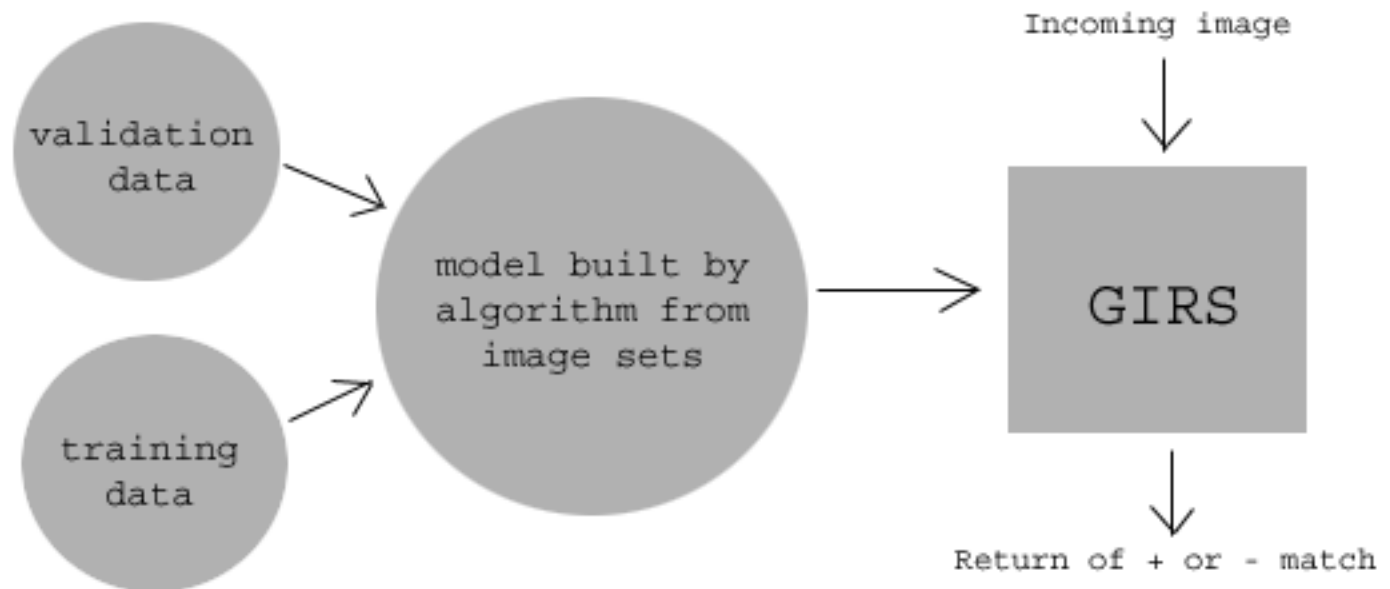
GIRS - General Image Recognition System

a Coleman Institute project
by Stephan Zednik

Challenge: Prompting Systems designed for the cognitively disabled have no generally efficient or versatile error detection systems. GIRS is an image recognition system which allows a computer to recognize defined objects within images. With this added functionality Prompting Systems will be able to quickly determine when tasks have been accomplished, where a user is in a certain task, and when things are not going as planned. Once these parameters are known, a prompting system can more effectively react to help the user accomplish his or her task.

Currently GIRS is functional on a laptop and able to determine its location from a list of possible locations. Even more promising, GIRS can determine the presence, or absence, of simple objects such as wet floor signs or computer monitors.

We hope to soon have GIRS working on the PDA platform in conjunction with current memory prompting systems. The portable qualities of the PDA platform make it an excellent base for an image recognition application.



GIRS uses a polynomial cascade algorithm developed by Greg Grudic and Dr. Peter Lawrence to analyze large batches of images. The algorithm builds a computational model from the images. Models can be built of small objects, large locations, and everything in between. GIRS tests images taken by the user against the model and returns a positive or negative match.