



# Trace-It™

## An Elegant New Method to Improve the Accuracy of Gesture Recognizers

**The software algorithm efficiently enhances gesture recognition in any device.**

Recognizing gesture inputs is a challenge that can be approached with different methods. With this new technology it is possible to improve accuracy as well as the speed of gesture recognizers. The technology enables cross platform use and is computationally lightweight.

### **Applications:**

-Train, test and validate gesture input, including handwriting, shapes, equations and schematics for 2D and 3D interfaces (eg. touch screens, smartphones, pc's).

### **Benefits:**

- Low coding overhead and accurately generates synthetic data, even with little user input.
- Can be integrated in any target hardware or software.
- Fast, versatile, language independent, and can be integrated within existing recognition systems.
- Can analyze low quality samples collected on low-end devices.



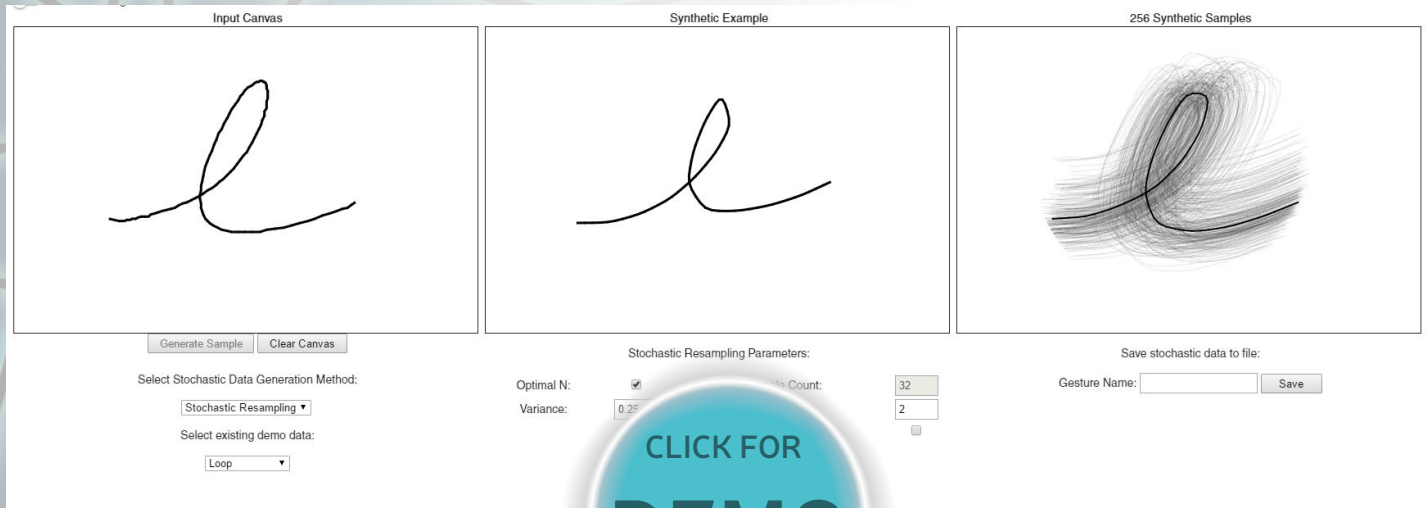
*The algorithm instantly extrapolates multiple variations of any gesture.*

### **IP Status:**

US Copyright

Patent Pending 62/362,922

# Improving Sketch Gesture Recognition Using Stochastic Resampling



## How it works

This patent pending software algorithm by researchers from the University of Central Florida generates realistic synthetic data. It significantly improves accuracy of gesture recognizers used on touch devices, laptops and smart phones.

When given 2D input, drawn with a stylus on an interactive display or made with a finger on a touch device, synthetic data is produced by this new method called Gesture Path Stochastic Resampling (GPSR).

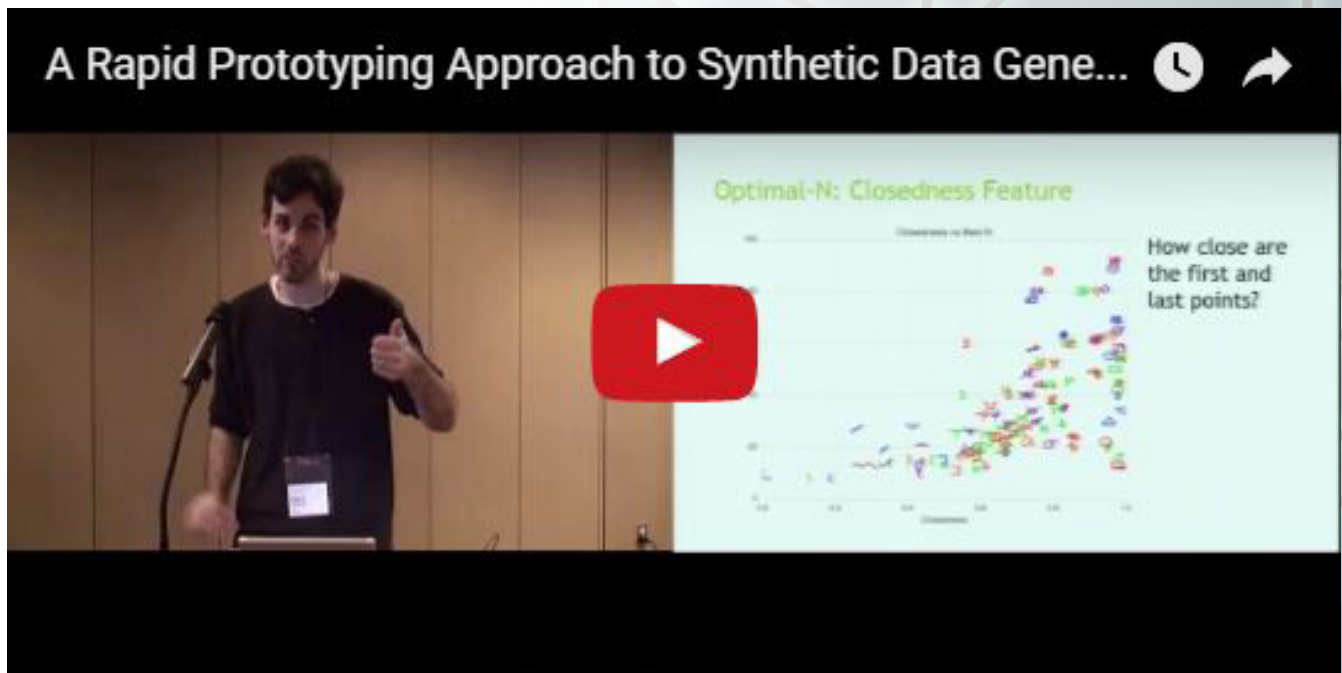
It is a computationally efficient software algorithm requiring minimal coding overhead to implement. The algorithm rapidly decodes analog gesture input for computation, by resampling the input an optimal number of times.

GPSR intelligently selects random points along a 2D or 3D trajectory, and scales the spaces between the points to create realistic variations of a given sample. The resulting series can be translated, scaled, skewed and rotated, as necessary.

The algorithm is accurate and requires low coding overhead, it can be ported to any target platform such as hardware, operating system or application code. It can also synthesize low fidelity samples collected on low-end devices. GPSR is fast, versatile, language independent and can be integrated into existing recognition systems.

The potential applications are limitless as the SR method can also be extended to 3D, improving gesture recognition in AR/VR interfaces.

## Meet the Inventor - Eugene M. Taranta II



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