How can I create an additive texture by overlaying material using hand gestures? In order to approach this I employed a Leap Motion, a hardware sensor capable of contactless tracking of hand and finger positions. By editing some very simple scripts provided by its SDK, I managed to transmit such data via OSC, to be subsequently used by audio synthesis software such as SuperCollider . The issue then became how to classify a gesture and ascribe meaning to it’s variations.

My experience as an orchestral musician made me interested in how hand gestures can contribute to give shape to musical material. Although I’ve come to question the overly hegemonic role played by conductors (and all of the political assumptions this entails) in symphonic orchestras, I’m still amazed by how variations on gestures can have some impact. This can be easily accomplished in systems involving human beings as mediators by harnessing our finely tuned communicational skills. We attach meaning to subtle variations in verbal and non-verbal communication. Even when there’s no clear one to one relation between intention and movement, we tend to ascribe one by relating to it vicariously.

In my past work with motion and gesture tracking I’ve focused on a very straightforward parameter mapping paradigm: one parameter of movement (be it location, speed, rate of change, etc) gets translated into one or multiple parameters for a sound synthesis engine. However, in order to consider gestures as they evolve in time as meaningful elements in our being-in-the-world and not only as positions or lengths in a three-dimensional space, I had to provide the mapping layer in the system with a certain kind of agency. In a way this is analogous to an orchestral performer being constantly on the lookout for the conductors’ gestures. Machine learning techniques such as classification helped me approach this goal, as well some basic gesture recognition natively provided by the Leap Motion.