

## Engineering Statement of Purpose

I am creating a portfolio of various methods of integrating the respective languages of art and mathematics as a means of exploration and even as a direction towards solutions to real problems by way of intelligent metaphorical thought.

I went back to school for Mathematics and Mechanical Engineering after a 7 year stint in New York City as an artist.

At that time I found the realm of quantification proposed by engineering alluring within my previous context of art philosophy and critical theory. I was looking for something that wouldn't change every time I turned around, for an intimate relationship with laws like gravity and hands on experience calculating unknowns at infinite distances with methodical axiomatic thinking. I wanted some familiarity with a large predictable data set like Newtons Laws within a particular domain before its impending dysfunction at limits defined by scale.

While at school I joined a biomedical research group and published a paper as first author. This paper was a collaborative attempt to produce a tool for quantifying tumor structures using Fournier frequency space.

Basically, we coded a MATLAB program as a user interface that allowed user engagement with a large data set of images of laser scatter from Pancreatic Cancer tissue. The user could choose frequency generated subsets of this data set and inspect for characteristic markers. We presented the paper in San Francisco at the SPIE conference. One aspect of my responsibility was to deal with the problem of seemingly random aesthetic decisions made by a group of users as a method of solving a mathematical problem also defined by seemingly random data.

During this time, I also wrote a paper (unpublished) where I attempted to use an historical Cuban rhythm as a method of solving a classic Jet Propulsion/ Thermodynamics problem. The paper is a failure but it achieved a certain level of resolution regarding my overall project of developing a method of interweaving some corner of formal art language with a particular mathematical language - in this case syncopation and timbre with thermodynamics.

These two projects help explain my interest in interdisciplinary work and help to differentiate it from using art as a means for illustrating scientific ideas. In addition to these well understood and utilized techniques of display, art can *also* participate by way of a vast tool box of historical methods and practice. My interest lies more in this nuts and bolts and back of room approach to exploring meaning with all the tools at our cultural disposal.

Often the results of projects like this might be suspect or appear as an esoteric cul de sac, but I believe simply continually proposing the possibility of a real formal engagement across these disciplines is incredibly important for the prosperity of human cultures and without which terrible detriment continually occurs. The wonderful poet William Carlos Williams said something to the affect of - poetry never saved someone's life in war but men and woman die every day from a lack of what is found there.