

## Genome Master

Observe  $\Delta$  Sequence  $\Delta$  Integrate  $\Delta$  Concept  $\Delta$  Update  $\Delta$  Expectation  $\Delta$  Feedback  $\Delta$  Learning

**Tool Conception@2016.12.8 | Report Submission@2016.12.11**

### Part One | Proposal | Promise Fulfilled | Tools | File | Design | Process

**GitHub** [https://github.com/j5scott/CSE180\\_rna\\_concept\\_detector/blob/master/pcfpd.py](https://github.com/j5scott/CSE180_rna_concept_detector/blob/master/pcfpd.py)

#### Proposal

In lieu of a group presentation, I accepted an offer to do a solo project.

I chose, for this due date, to accomplish Pattern Recognition, Candidate [Motif / Genes / Proteins], identifying all patterns, outputting their frequencies, and doing this all in one pass through the data.

#### Promise Fulfilled?

Absolutely: pcfpd.py and genzen.py both make the output files, and do work! just inspect outputted files

Also, going above and beyond, I made another tool that was not in the original proposal, but should satisfy the work-load difference between what I should have cleaned up and this missing piece:

#### Living Toolset

Author's unique concept theory for intelligent systems is finally being conceived, in python. These tools are called *living* for two reasons.

- Our toolset is be shared publically, improved on via public repository, with continued support, dynamic updating and evolvement as t for as long as author lives
- Like the new web languages, ie: <html5>, this project will be updated with improvements, offered to
- Assignment due tonight, but work shall and will continue

**Files:** subject to renaming

pcfpd.py

genzen.py

labler.py : have not used the labeler yet. but will when I get to protein candidate analyses

**Obtain Genome Master:** clone the repository V Git version control system issuing command

#### Process Of Design + Future Plans

1. Design an RNA / DNA toy generator
  - a. User runs : python Genzen.py
  - b. Genzen prompts for, and User enters, a filename

## **File Overview:**

Genzen.py - generate toy data. run python Genzen.py then answer the prompt for the file output 4 files forward or rev combined each with rna or dna

Purpose: Generate 4 files of toy sequences for the purpose of testing the main project

## **Part Two**

### **History, Trend, Demand, Growth Of Intelligent Systems in Our Lifetime, My Long Term Goal**

Today, human grammar, structure, and accurate inference of semantic variation, even on stimulus tokens with identical symbolic representation have been modeled successfully by professional and enthusiast developers of software machines built on varying and increasingly accurate models of Human learning. Notably, the concept for a software construct of brain neurons is far older than most students enrolled at UCSD; however 1980's researchers, frustrated with models too complex for machines with limited resources simply lost interest. Technology was not yet mature.

Over the last decade society has experienced an enormous shift in this trend. Neural Networks are in high demand among data scientists, tech giants, government, military, and arguably social engineering establishments. Designed well, they can be perfect for learning big data trends (patterns), forecasting, human activity, spending, and behavioral prediction, military agenda (seek,detect,[protect|destroy], and arguably social engineering purposes, are back in style with more interest, investment, and purpose than ever.

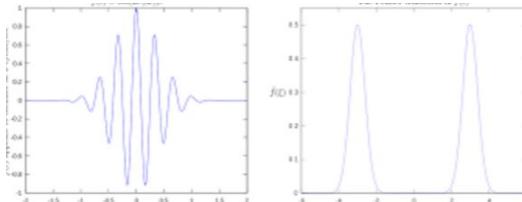
Not surprisingly, improvements in neural technologies are being financially backed by interested of the Uber elite, Über Rideshare included (autonomous vehicles very soon). For example Google has access to thousands of times more of GPU's needed to stack together for efficient deep learning. Interview explanations often include the notion of "better user experience", but another honest theory is a tale as old as time: cheap labor, less legal battles, more money.

In this lifetime I want to take part in a cause that harnesses the power of AI in my concept framework to: **Solve the problem of mapping observable [visual, auditory, grown other time] qualities of species to gene regions.** I will do this by feeding into it's design input matrix, 4-dimensional (space-time) mappings of lifeforms, over time. When no ethical violation arises, this can include maps of their entire lifetime. Sampling doesn't need to often, just regular. Plant's for example over many years, maybe a may once a week. Even with lost data, we can map time onto a quadratic function so changes over time can be approximated for unobserved or lost time.

This may sounds impossible, but Neural networks are capable of learning anything NN's (with dynamic hidden layers) actually *learn the internal unobservable features*, based solely on external stimuli.

Here is a loose analogy to help with the theory: Recall the [double slit experiment](#). When e- is not under observation, it exists in wave form.

Passing through a slit in the wall slices off a chunk of its infinite potential (its wave), and since part gets through the slit, it still has an infinite wave potential, alone, but in the presence of other slits, creates a unique pattern on the wall. Making the connection: Recall Fast Fourier Transform which can separate a wiggle like this



On the left we don't know how many concepts are behind that function there, that's an input to a NN, on the right, is the result of a function that would like in a hidden layer- it has no awareness of what's inside the organism but no matter what, with enough neurons, and enough examples, it can learn to respond to the **2 unobservable** functions driving the input signal. Signals come in any dimension- because all concepts are a dimension an agent needs to learn the labels and limits for (email me for more details)

**My Hypothesis For Future Research:** A Pure Concept Framework, a concept structure of my own conceiving entirely from scratch such can be fed random / arbitrary Neural NetsNeural Networks Given the Entire 3d surface of a living organism, which changes its state, on its own,

Many for noble and beneficial purposes such as the ability to heal people in an astounding way, our topic: finding interesting gene candidates to save lives), and also not surprisingly, for mankind's carnal desires (ie: London's upcoming [sex robot cafe](#), discriminately serving up sexual favors along with a beverage, only for men. Seemingly all levels of business enterprises are noticing this fact: They need not lose another penny to what their bottom line perceives as unreliable, unpredictable, uncontrollable and randomly costly humans firm seeking to save money.

Human beings operating business on the same why we are seeing continuously improving algorithms and rapid acceleration of performance. Organized and well funded collaborators compete fiercely for the next breakthrough model for solving novel, or previously thought impossible, inventions. These factors drive humanity towards ever more intelligent technology and ever increasing interest and backing of corporate agents. Faster and more efficient each year because of, without training a human designed software agent, a learning machine, built via a software semantic called a neural network on large corpus of text.

How does any of this fuel my motivation for designing a Genome Master toolset?

### Rising Demands in Specific Tech Field Lead to Rising Demands in Others, Like Ours

I proposed a recursive network to learn all of the patterns and frequencies of patterns of "concepts" coded into genes. This is not a case for aliens or design; one must be honest about what is provable and what is not. Rather, We thank Earth, Sun, Water, Air, and Lava for evolving life on the planet. even without "concepts"

If something is conceivable, meaning any arbitrary collection concepts bound label (not only human symbols-*ie:chars-* but the label itself could just be an arbitrary collection of data points-*ie:photo* ) and the agent is able to communicate anything semantically valuable for another agent to link the concept in their minds a recallable concept with qualities, that when remembered, afford some reconstruction by humans, it can be learned by machines, if not now, soon. NN's can learn to recognize and label just about anything recognizable by a human now, but recognizing and labeling feature patterns are no longer impressive are the NN's that learn to generate unique concepts. For example Google's "Deep Dream Generator" Something I've personally been developing theory on paper for years, whether or not those concepts are symbolic (*ie:knockoffs*, in a way, of sensory experience: *chars*,

Neural networks learn to write unique and compilable code, which drives my interest in A This made me very interested in designing an awesome tool

We also see rapid improvement in the field of bioinformatics, our cross-domain subject fusing genetic research and computer science. A goal stated at the beginning of this

However complicated they may be, can already be well understood by uttering various expressions of genetic code come in the form of proteins from a set of 20 proteins. language is naturally a neural network programmer's dream to apply big data analysis to analyze. The alphabets of genomes sequences are simple: only four nucleotides.

Which Is Why I Start My Revolution Here.

Thanks for a great class